

THE

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GENERAL

Desert

M A G A Z I N E



NOVEMBER, 1942

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Finding yourself enveloped in a lavender-pink cloud—anywhere—would be a bewilderingly delightful experience. But on the desert, it would seem more unreal than a mirage. Yet that's just what Mary Beal found when she climbed a slope of the Ord mountain range in the Mojave desert. This month she describes Fairy Mist, the ethereal little flower which forms this colorful mantle—and several of its close relatives.

Fairy Mist on Desert Slopes

By MARY BEAL

IF YOU have never seen the desert covered with a pastel veiling of misty lavender or pale pink, you have a delightful surprise awaiting when good fortune brings you to a rendezvous with those blossoms called Fairy Mist. I'd like to guide you up the slope of a Mojave desert range in springtime, where all at once the ground ahead is misty with a soft lavender shading into pink, as if a lazy diaphanous cloud had settled to rest. As you come near enough to see the flowers you are amazed that such delicacy should flourish so abundantly in such a stern environment.

Last year the northern and western outer flanks of the Ord mountain range were overspread with this amethyst veiling more impressively than I had seen before. For miles and miles it hovered over the slopes. Ruffled by the breeze the hosts of lovely blossoms twinkled and danced in as sprightly mood as ever swayed Wordsworth's daffodils. I dipped well into it at three points, following roads several miles apart, and each time as I stood in the midst of it, the ethereal mantle of Fairy Mist reached into space on all sides as far as I could see. If you care to pin them down to a scientific label you may call them *Linanthus breviculus* but the chances are that you will still vision them as Fairy Mist.

The very slender purplish stem is wiry, 3 to 10 inches high, slightly hairy or smooth and bald, usually with 2 or 3 branches high up the stem or occasionally nearer the base. The leaves are palmately divided into 3 to 5 linear lobes about one-fourth inch long, tipped by a sharp point. They grow opposite on the stem, like small tufts or whorls, separated by long internodes. The flowers cluster at the end of the branches, the dainty corolla varying from lavender to lilac or pink or occasionally white. Its 5 lobes spread out one-half inch or more atop a long slender purple tube which is 2 or 3 times longer than the short calyx which has sharply-pointed linear lobes.

Its domain is the Upper Sonoran belt of the Mojave desert (above 3,000 feet) and you'll find it most at home in the ranges of the central part.

Several other species of *Linanthus* are frequently seen:

Linanthus dichotomus

Evening Snow, as it is generally known and loved, is a winsome airy plant, beguiling to come upon about sundown when its opening blossoms suddenly whiten the ground as with a light snowfall. During the sunny hours of the day it displays so perfect a camouflage that it seldom is seen except by intimate friends who know its ways. Soon after sunrise its snowy corollas are closely furled, like so many fairy umbrellas, showing only the dull-pink border on the exposed edge of the lobes, which with the glossy-brown stems and scanty dull-green foliage merge into the ground coloring and escape the eyes of most.



Close-up of Fairy Mist, showing the flower clusters at the end of wiry stems.

The desert height of the plant seldom exceeds 8 inches and may be only 3 inches. The needle-like leaves are entire or divided into a few palmate lobes one-half to 1 inch long. The corolla is white, an inch or more across, furled in the bud, the very slender tube about one-half inch long, marked inside by a broad purple band. The stamens are entirely concealed within the tube. All through the night the floral snow exhales a strong fragrance, disliked by some but refreshing to those of us who delight in the tang of wild spicy odors.

You'll find Evening Snow on high gravelly mesas, hillsides and mountain slopes of the Inyo and Mojave deserts and also in other than desert California regions.

Very similar is *Linanthus bigelovii* except that the flowers are smaller and yellow with a dark circle at throat. The cylindrical tube is twice as long as the corolla lobes, which are half the size of Evening Snow.

Linanthus aureus

No doubt the most wide-spread species, being common in both Colorado and Mojave desert areas and Arizona. A low plant 1½ to 6 inches high, often much-branched and in favorable years forming a golden hemisphere 6 or 8 inches broad, the highlight of its environment. The light green leaves have palmate linear lobes about one-fourth inch long, the funnel-form corollas are one-fourth to one-half inch long, bright yellow with brownish-orange throat. Sandy valleys and washes are often aglow with golden drifts of this radiant *Linanthus*. Its variety, *Linanthus aureus* var. *decorus* is almost identical except for the white or occasionally lavender flowers. It has the same habit of growth and is equally abundant in similar locations.

Linanthus parryae

An old-fashioned Buttonhole Bouquet is what this engaging species brings to mind. It is low and compact, only an inch or two high, the few needle-like leaves very inconspicuous, quite obscured by several sizable flowers congested into a tight little cluster that easily could adorn a buttonhole for dress occasions. The delicate corolla is white or creamy yellow, or lilac, marked by 5 purple crests in the throat which form a 5 pointed star. It is funnel-form, an inch or more across, with a very short tube and short bulging throat. This charming species favors sandy plains and slopes of the Inyo and Mojave deserts, slipping over into southern Nevada. In some restricted areas the throat crests are white instead of purple.

Linanthus demissus

A decumbent little plant only an inch or two high but much broader, branching from the base and rebranching into many leafy branchlets to form mats 3 to 6 inches broad, closely starred with fragile white blossoms. The needle-like leaves are somewhat hairy and the campanulate corolla not over one-third inch long, white with purple streaks in the throat, the lobes recurving or twisting in windmill fashion. It grows in sandy and gravelly flats and washes in valley and mountain areas of central and eastern Mojave desert, Nevada, Utah and Arizona.

DESERT Calendar

NOV. 1 Eve of All Soul's Day, celebrated as the Spanish Hallowe'en with old customs in Santa Fe and Spanish-American villages of New Mexico.

2 All Souls' Day (Spanish Memorial Day) in New Mexican Spanish-American towns.

2-3 Christian Education area conference, First Baptist church, Phoenix, Arizona.

8-11 Twenty-fourth annual livestock show, Ogden, Utah. E. J. Fjeldsted, manager.

11 Dedication of Logan-Cache airport, Logan, Utah.

11-13 Arizona City Days, annual Elks' fiesta, Yuma, Arizona. Wm. Tinsley, exalted ruler.

12 Annual fiesta and harvest corn dance, Jemez Indian Pueblo, New Mexico.

12 Feast Day of San Diego, fiesta and harvest corn dance, Tesuque Indian Pueblo.

16-17 Annual Arizona Farm Bureau convention, Phoenix.

28 Annual convention, Arizona section of American Civil Engineers, Phoenix.

After first frost—Navajo "Yei-be-chi" and Fire Dance, Navajo reservation.

Late November or early December—"Shalako" ceremonies and House dances, Zuni Pueblo, New Mexico.

HUNTING SEASONS

Arizona—
Deer: North of Gila river, except Pinal mountains, Oct. 16-Nov. 15; south of Gila river and Pinal mountains, Nov. 1-30 on white tail deer; Nov. 16-30 on desert mule deer. Kaibab deer, Nov. 1-5. Turkey, Bear: North of Gila river only; corresponds to deer season. Elk: Nov. 1-30.
Quail: Nov. 15-Dec. 3.

California—
Pheasants: Nov. 15-24.
Quail: Nov. 15-Dec. 31 (variation in counties).
Duck, coot, geese: Oct. 15-Dec. 23.

Nevada—
Duck, coot, geese: Oct. 15-Dec. 23.

New Mexico—
Deer: Sandia game refuge open to archers Nov. 5-15.
Elk: Nov. 11-21 in T O Ranch area east of Raton.
Duck, geese, coot: Nov. 2-Jan. 10.

Utah—
Duck, coot, geese (except Ross geese): Oct. 15-Dec. 23.
Pheasant: Nov. 1 opening, varying 4 to 8 days in various counties.
Deer: Oct. 17-Nov. 8.



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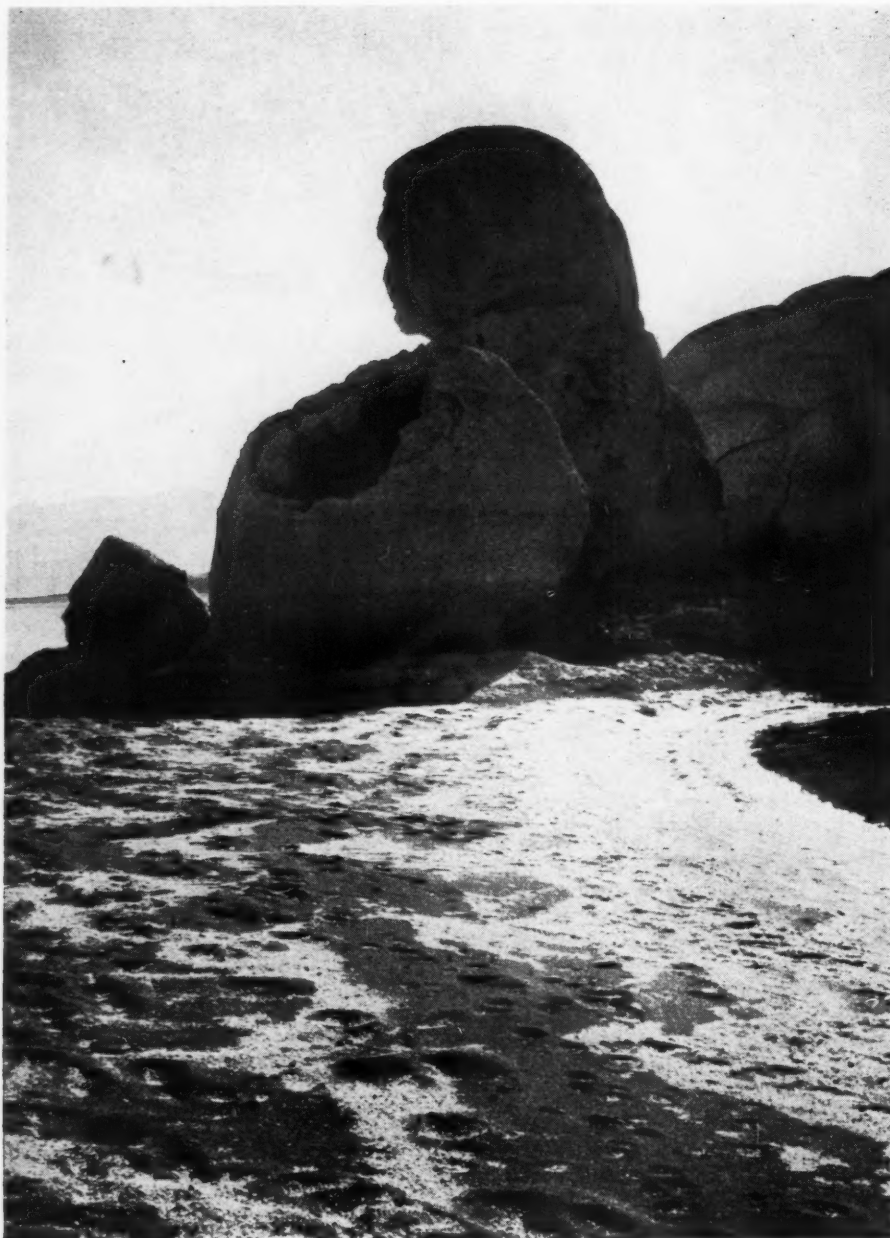
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Legendary stone mother of Pyramid lake, Nevada.

DESERT CADENCES

By CATHERINE M. HENSON
Compton, California

The desert is like music;
Its sands of time move on;
In rhythmical cadences—
Shadows measured by the sun.

On its vastness the saguaros
With staccato accents beat
Undulating miles of distance
Through vibrating desert heat.

Rhythm flows along its ridges
As the shadows of the night
Dim the mountains into darkness,
And the heavens pattern light.

Aye, the desert has its own song;
And the visitor will hear,
Murmuring softly in the starlight,
Music of the sages near.

And the stars so close above him
Blink and wink and even nod,
For one who lists to desert music
Finds himself alone with God!

AUTUMN

By MARIE ZETTERBERG JELLIFFE
Claremont, California

His easel mounts the hills, or rests in hollows,
He holds a palette full of lights and shadows
And flings his colors to the winds and sunbeams,
To woods, to plains, to hills and shining waters.
Leaves and blossoms fill his scenes with fire-
glow.

The frost blooms blend with sedges and dimmed
yuccas,

The loneliness of deserts and of distance.
In mystic rays the sunlight is transfigured
In that rich haze that holds the late year's
splendor—

THERE IS AN ARTIST AND HIS NAME IS
AUTUMN.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

So still, yet the stillness has a voice,
And in soft, low tones it seeks
To ease the fearful, restless soul;
"Courage and peace," the desert
speaks.

Legend of the Stone Mother

By IRENE BRUCE
Reno, Nevada

There's a legend of the bluest desert lake
Born on sands, where waters ever cease;
And a mother's love that mountains cannot
shake,
Watching over children, loving peace.

Long ago the winds have heard this mother's
name,
In the land of sun and blowing sage.
Once her heart was warm with life, and children
came,
Ere she knew the sorrow of the age.

Long before the waters of Lake Pyramid,
Came this mother with her grief to bear;
Weeping for her children who had fought, and
died,
Tears fell deep beside the mountain there.

Though her tears were more than sands could
hold,
Still she stayed upon the rising shore;
One "Stone Mother," guarding all within her
fold,
Sits beside the lake, forevermore.

CAPTIVE

By KATHARINE BUOY
Portland, Oregon

The sun is rising from low-lying hills.
Surrounded by the desert stillness I
Am breathless, waiting . . . waiting . . . but
just why

I do not know. An unseen presence fills
This area of quiet while it thrills
Me with its urgent, and yet soundless, cry.
This sunburned wilderness, swept bare and
dry

By ardent summer winds, all discord stills . . .

And I am drawn again and yet again
Back into this enchanted desert land
By that which holds me captive with its
power.

And ever I obey its mandates when
This spirit, rising from the sun-drenched
sand,
Commands return for one brief, mystic hour.

BALM OF THE DESERT

By LOIS PATTERSON HAMMER
Casa Grande, Arizona

There is no simpler tonic for a man upset inside,
Than a stroll upon the desert in the early even-
tide.

The calm of open spaces is a balm, for thinking
clear,
That soothes and heals the cancer of imagina-
tive fear.

Cool shadows stretching tranquil on the sage
and saltbush, glide

Like purple shafts of greeting from the friendly
mountainside,

Confiding hope, dissolving cares, then going
on their way,

Leaving man to wonder why he worried through
the day.

SMILING HOST

By IRENE BRUCE
Reno, Nevada

The sands are a flowing, gold-spun cloth,
Laid on a land as quiet as the moth;
Where the smiling sun is a gracious host,
Who shares with us what he loves most.



Specimens of jet found near the surface were weathered and checked, but deeper in the deposit fine hard pieces were uncovered.



Dr. A. L. Inglesby with two pieces of jet. Note the typical dense shape into which the ancient coniferous wood has been compressed.

Gem Stones Found in Veins of Coal

Styles in gem stones change, and the use of jet in mountings for diamond rings, and in other jewelry, is not as popular as in former years. Nevertheless, a well polished piece of jet is a beautiful stone, and many readers of *Desert Magazine* may be surprised to learn that it is nothing more nor less than petrified wood found in coal deposits. Here is the story of a jet-hunting expedition in Utah.

By CHARLES KELLY

DON MAGUIRE of Ogden, Utah, an old time collector of minerals and gem stones, once showed me a specimen of jet which he said came from the Henry mountains of southeastern

Utah. At that time I had never heard of the Henry mountains and was not interested in rock collecting. Last year, however, I moved to Fruita, in Wayne county, where I became intimately acquainted with

Dr. A. L. Inglesby, who is known as the state's most rabid rockhound. From the cliffs surrounding his cabin can clearly be seen the snowcapped peaks of the Henrys, 60 miles east. Remembering what Maguire had told me, I asked the doctor one day this summer, if he had any specimens of jet from the Henrys.

"No," he replied, "but I've heard of the deposits. I know a man who could take us there."

"Then what's delaying us?" I asked. "Let's go!"

"Wait a minute," Doc suggested as I started to climb in the car. "I've got some books here on mineralogy. Let's read up on jet before we go out there, so we'll know it when we see it."

He gathered an armload of well worn books and we started going through them to learn what we could about the black gem stone. But we soon learned, to our disappointment, that they contained almost nothing at all on the subject. Only one or two contained the word jet, and



General view of Coaly Basin. The jet occurs in the upper black seam, lower right of picture.

even those furnished us no definite information. Later Doc corresponded with some of his rockhound friends and got additional facts.

From what we could learn it seems that jet is found associated with coal deposits, and is a form of coal with a hardness and density exceeding that of anthracite. It is, in fact, a coniferous wood that has been "petrified" in coal or nearly pure carbon. Its hardness is between 4 and 5 and it can be scratched with a knife, but it takes a beautiful polish and makes very attractive jewelry. Like amber, it is extremely light, and when rubbed acquires a small charge of static electricity. The best known deposit of jet occurred in coal measures at Whitby, England, where it was mined and manufactured for many years. At one time jet was used extensively in rings, necklaces and eardrops, but synthetic products largely have replaced it and real jet now seldom is seen.

In America jet is sometimes found in Pennsylvania, in connection with anthracite, but no longer is mined for commercial use. It may occur in other sections, but information on this is difficult to acquire. So far as I have been able to learn, the Henry mountain deposit is the only one known west of the Mississippi river, and that is why I was anxious to visit it.

Leaving Fruita, Utah, Dr. Inglesby and I drove east to Hanksville, 45.5 miles, then east 3.3 miles to a road turning south marked "Sawmill Basin." At 9 miles from this fork, or 58.3 miles from Fruita we arrived at Fairview ranch, where we stopped



Dr. A. L. Inglesby (with straw hat) and Wiley Stewart, digging jet in the Coaly Basin near Henry mountains in southeastern Utah.

over night with Mr. and Mrs. Jack Tappan. Here we also found Mr. Stewart Wiley, who was to guide us to the jet mine.

Just south of the ranch towers Mt. Ellen, most northern peak of the Henry mountain system. At the east base of Mt. Ellen is a smaller prominence locally called Bull mountain, while at the west is another called Table mountain. The locality we planned to visit was on the slope just under Table mountain about five miles west of the ranch.

Obtaining horses we started out across the desert slopes along the base of Mt. Ellen. The great laccolith towered above us, its summit crowned with snow, while be-

low us was spread a mighty panorama of red sandstone cliffs, canyons and sage dotted desert. After crossing several small gulches and one deep canyon, we arrived at the rim of Coaly Basin, a deep hole gouged in the earth at the head of Coaly Wash. Below us were exposed a number of highly colored formations composing the bottom of the Cretaceous series. The predominant color, however, was a dark grey; through this grey material ran two narrow streaks of black.

Climbing down into the basin was comparatively easy, as the slopes were composed of loose ashy earth which gave way beneath our feet. Fortunately there had been no rain; otherwise walking would have been impossible. Half way down the slope we found the two black veins, about six feet apart. Following along these we

soon found bits of jet float badly weathered by exposure to the elements.

Mr. Wiley told us the jet was found in the upper black streak, so we began digging where a quantity of float indicated the presence of jet. But as we started to dig the loose surface of the steep slope began sliding down on us, filling the hole as fast as we cleared it out. At the surface the black streak was badly decomposed, but as we worked farther in it became harder and finally proved to be a narrow coal seam about 12 inches thick. Immediately above the coal was a six inch layer of small white sea shells.

We dug for some time but found no jet. Then we moved along the seam and

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dug another hole, but without result. Following the black streak we prospected in a dozen different places. Float was plentiful, but we could not find the hard black substance we were searching for. After two hours' prospecting in various places we returned to the original hole and began going deeper into the hill. At last we found a small piece, which encouraged us to go still deeper, and after another hour's digging we found what we were looking for—a large piece of hard, dense, lustrous jet. Continuing on into the coal seam we took out about 100 pounds, most of it of good quality.

The pieces we took out were more or less lens-shaped, and all had the external appearance of petrified wood. The largest piece was about 10 inches wide, but the original log had been compressed to a thickness of about two inches. While the surface showed a woody grain, the interior was dense and black, with a cleavage like obsidian, showing no woody structure.

We found that the nodules or logs of jet occur immediately under the shell layer, just on top of the coal seam. The stuff was hard, dense, and a brilliant black, easily distinguishable from the coal. After finding one piece, it was only necessary to follow it back into the hill

to find more. As we dug deeper below the surface the quality became much better.

This jet deposit in the Henry mountains, the only one known in Utah, has an ancient history. Charley Lee of Torrey, Utah, an early day collector of Indian relics, once found a necklace 18 inches long, made of hundreds of small flakes of jet bored with a tiny hole and strung together, in a cliff dwelling 60 miles west of the Henrys. This, however, was the only one ever found in Utah, and no other ornaments made of the black material ever have been discovered.

White prospectors found this deposit about 50 years ago, but it was never worked commercially until about 1925, when Jack Kell spent two years in Coaly Wash and took out about a ton of jet for an eastern jewelry firm. When styles changed there was no more demand and the claims were abandoned. Since then rains have washed the loose slopes and covered every trace of those earlier workings.

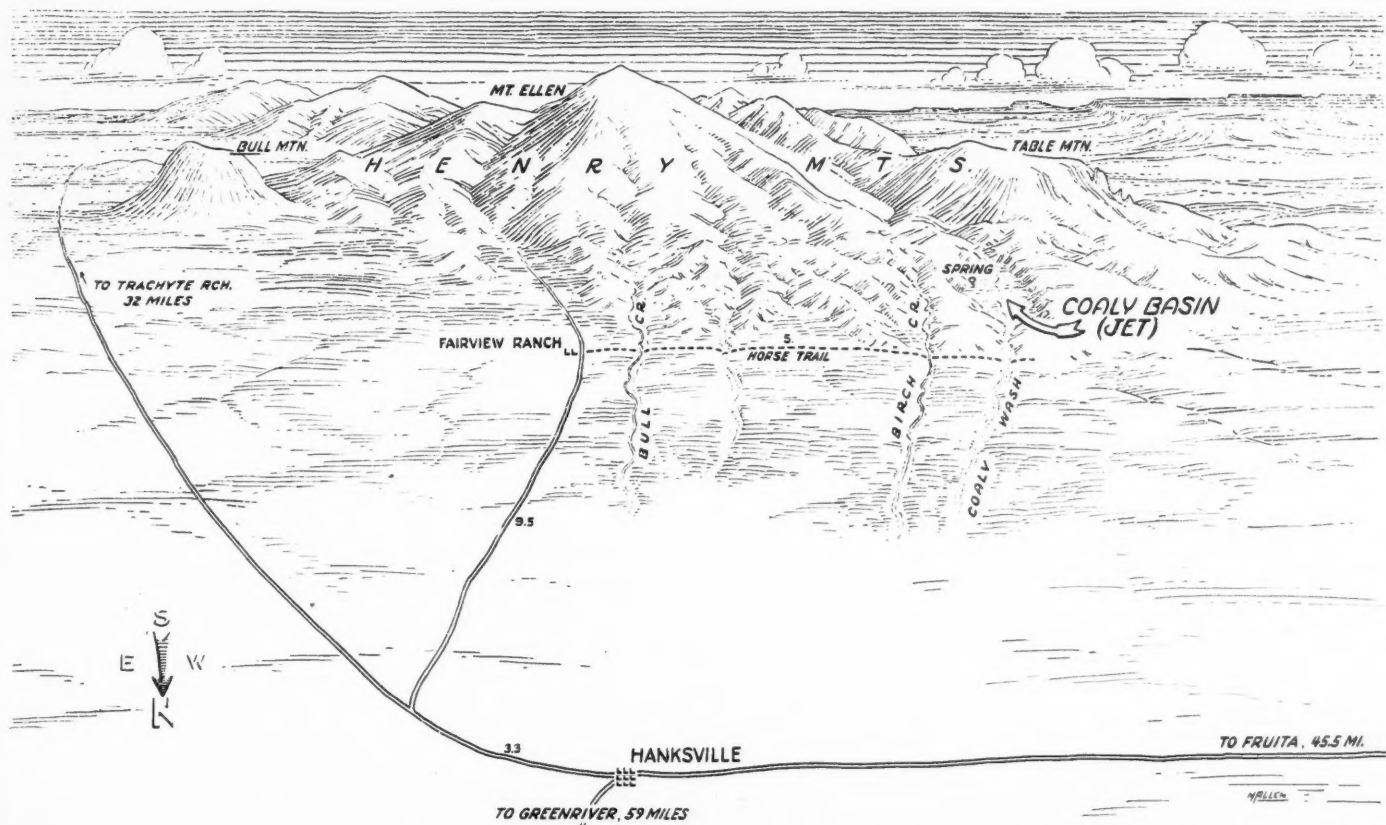
Judging by our experience good quality jet is not too easily obtained. Near the surface it is badly checked and brittle, making it necessary to do a large amount of digging for a small number of good specimens. But a solid piece of jet cuts easily and takes a very brilliant polish, making

the effort of obtaining it very much worth while. Besides, it is one of the rarer gem materials, not found in ordinary rock collections.

Returning from Coaly Basin, Stewart Wiley showed us a large campsite of prehistoric Indians. We stopped to look for arrow points and pottery sherds, which were plentiful. Among other things we picked up was a piece of weathered jet, showing that the early occupants of that site had been familiar with its use as ornamental material.

Coaly Basin, at the foot of the Henry mountains, is far off the beaten trail and probably will be visited only by the most ardent rock hunters. We were the first to visit it in 10 years. There are no automobile roads west of Fairview ranch, but a good horse trail leads into the wash about a mile below the jet deposit. There is a spring nearby and a small stream on the bench above. While we made this trip in July, it is not recommended for hot weather. A pick and shovel are the only tools necessary to obtain good specimens—plus patience and plenty of elbow grease.

While jet is now out of style for jewelry, its black brilliance makes it stand out among other stones and it is a unique addition to any rock collection.





Highgrade gold ore overflowed the bank vaults in 1905 when production was at its peak.

Gold That Came from Goldfield

Old-timers are predicting a new mining boom for Goldfield, Nevada. But this time it will be cinnabar and other metals, rather than gold. Here is a glimpse of some of the forgotten pages in the history of one of the most interesting mining camps in the world—as quoted from Ed Giles, veteran mining engineer of that region.

By JOHN HILTON

"*I* WAS in this stope," Ed Giles pointed to a map that lay on the table before us, "that the leasors found the rich ore body which caused Goldfield to build its big stone courthouse.

"The discovery was made," he went on, "just the day before their lease expired. The bosses rushed out and hired every available man in town to mine that rich ore pocket. Wages were \$10 a day plus all the highgrading the miners cared to do. It has been said that a million dollars was taken from that mine in less than 48 hours."

This is one of many stories told me by a man who knows the old Nevada gold camp at Goldfield "inside and out."

Jack Noone, the postmaster at Goldfield had directed me to Giles' office when I inquired where I could obtain information about the old mine workings in that area.

As county engineer in one of the most famous gold mining districts in the world,

Ed Giles has acquired, over a period of many years, an intimate knowledge of the mines there, both above ground and below. He has blueprints of underground workings that once produced millions.

From him I learned much of the mining history of the camp. He told me about the day there was a run on the bank. The banker placed nearly a million dollars in \$20 gold pieces in his front window, guarded by a single man with a rifle. When folks calmed down, the cashier carted the money down the alley to the gambling houses from which he had borrowed it, and took back his bills and notes. It was not unusual for the casinos to have a million in gold. Goldfield never did things half-heartedly.

Goldfield's history is sprinkled with stories of the open-handed generosity of its citizens. For instance, the day news came in that San Francisco had been struck by earthquake and fire, \$100,000 was raised in a few hours by popular subscrip-

tion to help the sufferers. At a later date, when fire swept away 40 blocks of Goldfield's business and residential district, San Francisco remembered, and contributed generously to the stricken mining camp.

Giles' office is filled with maps, all carefully classified and filed. But even more interesting is his collection of minerals and desert curios, and the stories he tells about them. Describing these treasures, he takes the listener to Cripple Creek, Colorado, where he got his start in the mining game, to the steaming jungles of Paraguay, the heights of the Andes, and the silver-laden sierras of Mexico.

He reached to the top of a bookcase and took down what appeared to be an ordinary stick of shrubbery.

"There," he said, "is a piece of sagebrush that caused me no end of trouble, but made me very happy when I found it. That stick marked a township corner set by the Campbell survey in 1871. I locat-

ed it over in the Death Valley area near Scotty's castle.

"I had to run a survey line over six miles of the roughest kind of desert to find it. When I reached the spot the corner was nowhere in sight. Finally, after much searching I saw this stick half buried in the sand. It was the corner I was seeking, with the data cut in it with a pocket knife."

Goldfield miners, according to Giles, developed very expert technique in high-grading. The methods ranged from concealed pockets in the tail of a miner's shirt and over-sized boots and trick lunch buckets to such devices as the one in which the company blacksmith went in cahoots with the highgrader in an ingenious scheme that worked fine until it was discovered. The blacksmith bored a hole in the miner's pickhandle. During the underground shift the cavity was filled with gold, corked, and a little mud smeared over the end of the handle. When the pick was sent to the blacksmith to be sharpened he took out the gold and later it was shared. Working in veins where it was possible to take out pieces of almost pure gold, such operations as this would soon yield a fortune.

Finally some of the larger companies took drastic steps to curb these illegitimate operations. A miner's strike resulted and at one time it was necessary to call out the state guard to quell the rioting.

Many of the gem specimens in Giles' collection are polished, and I asked him if he had a lapidary.

"Oh yes," he replied. "My workshop is over there in what Mother calls the 'doghouse.'"

The doghouse, it seems, plays an important part in the daily life of this mining engineer. He rises early, makes a cup of what he admits is "the best coffee in Nevada" and then spends an hour studying Dana or some work on geochemistry, metallurgy or engineering.

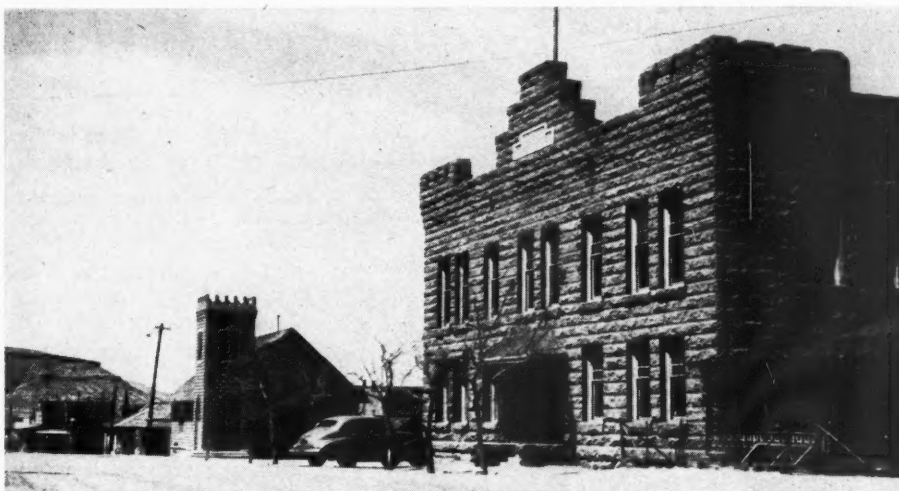
"A fellow can't get rusty," he explains. "I really get more pleasure out of reading and studying today than when I was young." All of which explains an unusually active mind despite his 70 years.

Looking at some of the rich ore specimens on his shelves, Ed recalled the operations of the highgraders—always a problem to mine owners. Miners were working in ore that ran as high as \$40,000 a ton and there was always the temptation to slip a rich nugget in a concealed pocket. So much ore was taken out of the rich mines in this way that many "assay offices" were opened up to take care of this illegal business. Since the miners and crooked gold buyers spent their money freely, the community was inclined to take a tolerable attitude toward this kind of petty pilfering.

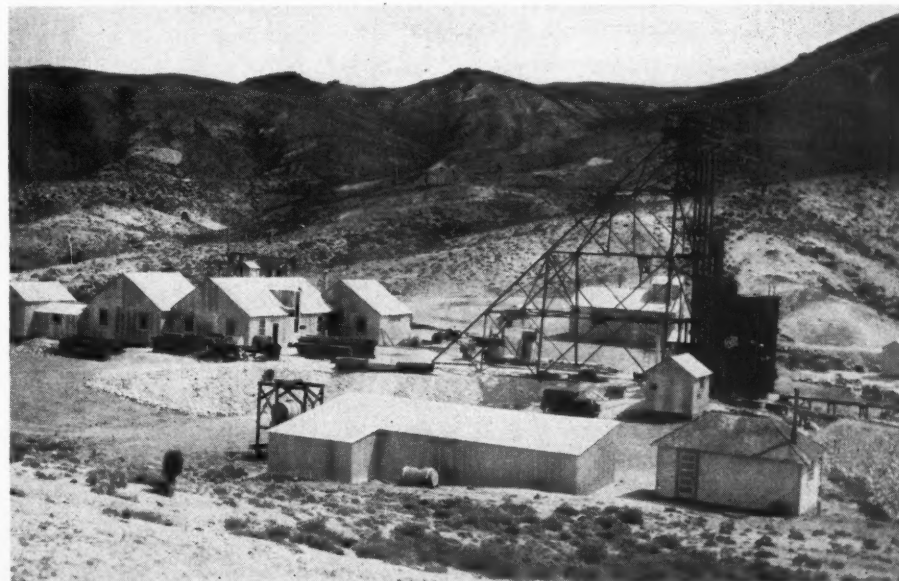
However, the assay offices which dealt



Ed Giles at seventy years is one of the most active mining engineers in the Goldfield camp. He polishes gem stones, and is shown here with some of his specimens.



This is the stone courthouse that was built in Goldfield when one of the richest strikes in the district seemed to insure the future of the camp.



Goldfield Pittsburgh mine.

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GAZINE

NOVEMBER, 1942

in stolen gold were soon spotted by the mine owners and lessors, and were cut off from all legitimate business from these sources. The assay companies which have survived in Goldfield to the present time, like Downer Brothers, have done so by sticking to legitimate assay business, and have the respect of owners and prospectors.

The story is told around Goldfield of an early-day postmaster who later absconded with a government payroll. He had acquired a large sack of highgrade by underground methods. He invited one of the crooked gold buyers to come in one night and make him an offer on the ore. The "shrewd" buyer looked at a few samples on the top of the sack and bought the lot for about one-third what he thought it was worth. Later when he examined his ore more carefully, he discovered that the bottom two-thirds of the sack was \$5.00 ore. There was nothing he could do about it.

Ed told me about his doghouse and lapidary. There he does his testing of ores, polishing and repair work. "You see," he explained, "I have my doghouse and Mother has her sunken garden. We call it a sunken garden because we've sunk so much money in water bills trying to keep things growing. Mother and I never interfere with each other's hobby, and we get along fine. We both like the desert and she often goes with me when I am investigating a mine."

There has been renewed activity in the hills and the old mine shafts and tunnels around Goldfield in recent months, and many of the old-timers believe Goldfield will come back bigger and better than ever.

Ed Giles doesn't believe the output will be all gold in the future, nor that the new properties to be opened will be in the immediate vicinity of the camp. Rather, he expects a widely diversified output, with Goldfield, because it already has ample housing for a large population, as the center of business activity for a wide area. He believes the next rush to the Goldfield district will be for quicksilver. He displayed some fine specimens of cinnabar float to bear out this opinion.

He was telling me about a cinnabar property he planned to examine that afternoon when he happened to glance out the window. "There's Mother's signal," he said. I looked toward his home and saw a white dish towel hanging in the window.

"That means my wife has lunch ready," he explained.

And thus ended my visit with one of the most interesting and entertaining men in a region where colorful old-timers are the rule rather than the exception.

DESERT QUIZ

Here's the monthly ration of brain food for the Desert Quiz fans. So get a pencil, relax in a comfortable chair, and proceed to find out how much or how little you really know about the Great American Desert. Even if you get a low score it will not be time wasted because you will have learned something new about the most fascinating area in the United States. Ten correct answers is better than an average score. The Desert Rats should know 15 of the answers. Anything better than 15 rates you as one of those super-humans sometimes referred to as Sand Dune Sages. Answers are on page 34.

- 1—Bitten by a tarantula, an old-timer on the desert would— Get to a doctor as quickly as possible..... Apply a tourniquet and try to draw poison from the wound..... Go to bed and put cold packs on the wound..... Address a few uncomplimentary remarks at the insect and forget about it.....
- 2—Farthest south of the five dams now in the lower Colorado river is— Imperial dam..... Laguna dam..... Headgate Rock dam..... Boulder dam..... Metropolitan dam.....
- 3—The legendary god Tahquitz of the Cahuilla Indians, lived in a cave on— San Geronio mountain..... Santa Rosa mountains..... San Jacinto mountains..... San Ysidro mountains.....
- 4—Traveling the paved highway from Gallup to Albuquerque, New Mexico, the predominating handcraft product sold by Indians in the roadside stands is— Navajo blankets..... Pueblo pottery..... Zuñi beadwork..... Silverwork.....
- 5—Pipe Springs national monument is located in— Utah..... Arizona..... Nevada..... California.....
- 6—Correct spelling of one of the most common plants on the desert is— Ocotillo..... Ocatillo..... Ocotilla..... Ocatilla.....
- 7—When you hear a botanist talking about Larrea, he is referring to what you and I call— Ironwood..... Smoke tree..... Arrowweed..... Creosote bush.....
- 8—Wild game sometimes seen in the Petrified Forest national monument are— Buffalo..... Antelope..... Peccary..... Turkey.....
- 9—If the man at the service station informed you that you were in Pahrnagat valley, you would know you were in— Utah..... New Mexico..... Arizona..... Nevada.....
- 10—Galena is an ore of— Lead..... Gold..... Copper..... Tin.....
- 11—Lieut. Ives is remembered for his— Famous camel train..... Discovery of Death Valley..... Exploration of the lower Colorado river..... Campaign against the Apache Indians.....
- 12—Hohokam is the name given— One of Arizona's highest peaks..... A county in Nevada..... A prehistoric tribe of Indians..... The dialect spoken by Mojave Indians.....
- 13—Headwaters of the Little Colorado river are in the— Wasatch mountains..... White mountains of Arizona..... Rocky mountains of Wyoming..... Sangre de Cristo range.....
- 14—A packrat's nest generally is made of— Twigs and sticks..... Wild galleta grass..... Rocks..... Feathers.....
- 15—Havasupai Indians of northern Arizona are closely related to the— Apaches..... Navajo..... Hopi..... Hualpai.....
- 16—If the famous Bird Cage theater was still operating, you could witness its theatricals by going to— Virginia City..... Tombstone..... Carson City..... Searchlight.....
- 17—Phainopepla is the name of a desert— Rodent..... Bird..... Lizard..... Plant.....
- 18—Predominating color of the sandstones seen in Monument valley is— White..... Slate..... Black..... Red.....
- 19—If you came to a sign that read "Tinajas Altas" you would know you were on the old— Butterfield stage route..... Bradshaw road..... Camino del Diablo..... Mormon trail to California.....
- 20—If you were to prepare a tender mescal bud for food, Indian style, you would— Roast it in a pit..... Barbecue it on an open fire..... Boil it in water..... Eat it raw.....

Beginning their quest for a new home with more water than their Yaquitepec mountain afforded, the Marshal Souths are following the trail deeper and deeper into the desert. This month, as their heavily laden little caravan moves across the wasteland of the Mojave, the Souths have an unusual encounter with the men from Mars in their armor-plated monsters. Crossing into Nevada the Souths search in vain for the home-spot they know exists, then continue to Arizona, where a surprising addition is made to their number.

Desert Refuge

By MARSHAL SOUTH

THE SEARCH goes on. Not yet have we topped the rise—which is always just ahead—and seen before us the new home which we set out from Yaquitepec to find. But somewhere behind dim horizons it lies waiting. More and more certain we are of this.

With every mile, as our old car and creaking, heavy laden trailer lurch through the dust of desert ruts, our hopes burn brighter and conviction strengthens. Rider and Rudyard are constantly making plans—plans as real and definite as though they were already well established upon the new location which lies at the end of the rainbow. Victoria plans with them. She is very anxious to be part and parcel of everything and as she cannot quite figure out what it is all about she plays safe by echoing all Rudyard's assertions.

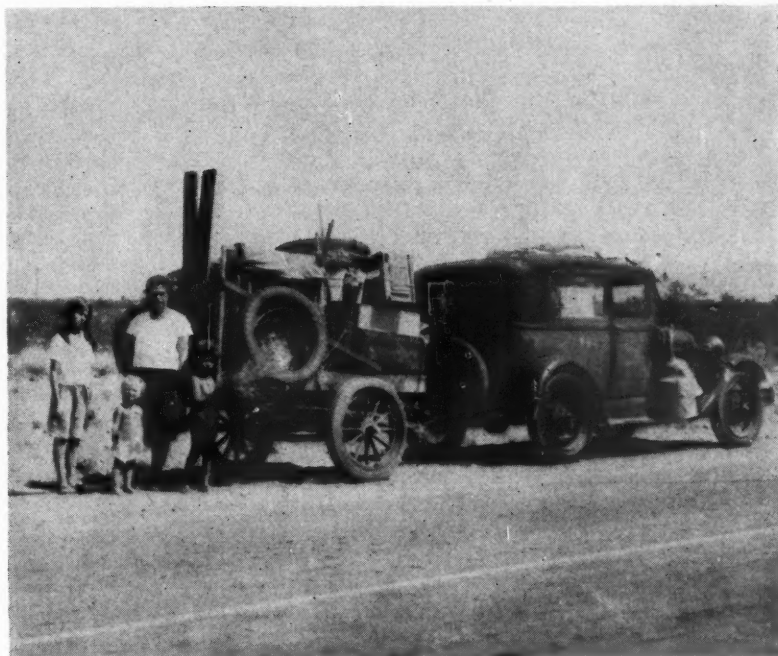
Rudyard (after much weighty thought) solemnly declared, "I'm going to plant radishes in the north end of my new garden—near the rocks." Victoria instantly repeated, "An' I'm doin' plan' wadishes in norf end of *my* darden too—near wocks." She is always very definite. And if Rider teases her, as he sometimes does, arguing mischievously that the *south* end of her garden would be by far the better place for the radishes, she wheels on him furiously. "No! No! *Norf* end! Jus' like Wudyard." Often there is hot argument and Tanya has to pour oil upon the troubled waters. For Rider overbubbles with a spirit of teasing fun—and little Victoria has an explosive temper.

And so we move on—seeking; looking eagerly forward to each new day and treasuring to the full each day's new experiences. After all it is the quest that gives joy as well as the finding. Especially have we found this true in our wasteland search. For to no one does the desert open its heart as widely as it does to those who go gypsying through its by-ways and solitudes; to those who, each night, spread their blankets upon its breast, beneath the stars.

Did we think that we, desert dwellers now of many a year, knew all the beauty and mystery and fascination of the unpeopled spaces? Childish illusion! The desert laughed at us—and in mocking laughter spread for us each day new scenes of weird enchantment and fantastic color.

Pictures! Pictures—and, alas, the color tubes and brushes are packed deep in the trailer load and fast tied beneath a score of lashings of rope and wire. And there is no time to tarry and paint pictures, anyhow. Through the creosotes the trail winds on.

California—the wasteland filmed with dust. Through the ocotillos and the ironwoods the dull glint of uncouth steel monsters lunge in awesome lines of battle maneuver down the sandy washes and across the rocky slopes; sun-wink upon the



Along the trail that leads to a new desert home—somewhere. Tanya and the three little Souths. The goats are in the trailer.

binoculars of grimly intent officers, perched upon turrets and the vantage points of observation stations; the roar of motor-cycles; demon-hooded messengers hurtling by into the din and haze-filmed air. Roar and thunder upon the highway; the pavement shaking to the resistless rush of mile upon mile of mighty cannon-leering tanks. Grim raw hills backed against a hard sky like the dead mountains of a dream. A sign, cringing by the roadside, "Watch out for cattle." But there were no cattle. Here is only the gathering might of War.

And over and around it all the metallic sky, the far, hard, thirsty reaches; the inscrutable mystery of the desert.

We had passed far by and out into the emptiness of sunlit space when they hove in sight—a last, isolated detachment of armor-plated monsters. We had paused to one side of the road to wrestle with a blown-out tire and from the north they came suddenly upon us, an awesome line of grim things that might have been unthinkable giants from another world. As they heaved over the swell of the rise ahead and came charging down the highway one could but know fear. Dust and stones flew in a storm from beneath their clanging tread. The sun was behind them. Wrapped in sun-glared dust as in a cloud of fire, they roared headlong upon us.

And then, suddenly, as our ears deafened and our eyes blurred and we gathered for a leap to safety, the line swerved. Almost upon us the swaying monsters lurched aside and went bucking into the soft earth of the roadside. In the reeling turret of the foremost, a grim helmeted figure waved a sudden arm and in a storm of flying stones the line of thundering steel terrors ground to a shuddering halt. Were we in trouble? inquired a clear-eyed, clean-cut, efficient being from Mars. Did we need any help?

And we told him no—we would be fixed up directly. It was only a tire.

And we thanked him. And he grinned and said you never knew . . . maybe he'd need help himself some day. And he waved a signalling arm again to the long line of halted demons and they woke to roaring life. And in a moment were off, lunging and thundering down the highway—a grim nightmare of leering cannon and pounding steel. And they faded away into the dust and were gone.

And soon we were gone, too, chugging along the long road

on our mended tire. And we were silent. But it was the silence of hearts that were warm and full. Because, for just a moment back there, we had been permitted, across the savage frown of armor-plate and the ready muzzles of guns, to look deep into the clear eyes of America—the *real* America. And we had seen something there, something far deeper than windy words or hysterical flag waving.

Adios, clear-eyed man of Mars, whoever you may be. Drive on—atop thy bucking tons of flame-spewing steel, drive on to Destiny, to Victory and to Safe Return. Good luck go with you. The future is secure. Storms may come and bitter winds must blow. But neither from without nor from within shall the torch be quenched; clear-eyed and resolute the real America moves on to great and greater dawns.

Nevada and a cold wash of sunset, a vast sweep of desert valley. Wind-carved mountains tumbled against a crimson sky. A lone jackrabbit kicking clean heels in flight across the road. Nevada State Line. "A debt free State welcomes you." Grey road winding on and on into the dusk.

"Where shall we camp tonight, daddy?" Rider asked presently. "How about that place ahead? It looks pretty good."

It was good—a wide clear space beside the road, well free of any bushes that might serve as attraction for snakes and other wildlife prowlers of the dark. And when we had pulled in and halted and untangled our cramped limbs from the car we unstrapped the bedding from the car roof and spread our blankets upon the stony earth.

But before we could eat supper and stretch out to rest there were the goats to be fed and attended to. Conchita and Juanita are philosophic about this trip. They are resigned, by now, to their tiny pen on the back end of the trailer and they load and unload with something of the skill of trained circus animals. Not always is their lot a happy one. For sometimes there are desert sections whereon it is almost impossible to find anything edible—even for a goat. This first night in Nevada however was a happier camp spot and we were able to gather for them great bunches of sweet, dry desert grass.

Long into the night, after we had crept into our bed and lay gazing up at the stars, we could hear their steady, contented munching. It was a soothing sound. There is, somehow, a peculiar, primitive satisfaction in the close proximity of domestic animals. Something which seems to link one closer with Nature and the Great Spirit of all Life.

Nevada is a grand state; the spirit of a wide freedom seems to dwell in its vast desert spaces and amidst its weirdly beautiful mountains. But we did not find our home-spot there, despite our trekkings into old mining camps and into far canyons. Despite also the whole-hearted efforts of good friends in Las Vegas. Our closest lead came from a lady in a picturesque little mining town who, after considerable pondering, opined that a certain "Horse Thief Canyon" might suit us. But the name seemed to suggest that residents should be gifted with special qualifications; and we doubted if we were eligible. So, regretfully, we turned away.

The children found their first desert tortoise in Nevada. A lively little wanderer detected in the act of plodding across a road and promptly christened "Tiny Tim." A tortoise, however, though it does carry vague associations with water, is most certainly *not* a spring.

We doctored the weak places in our tires with bandagings of friction tape and wandered down to Lake Mead—there to be delivered, with military pomp and escort and between the ready rifles of watchful sentries, into the arms of Arizona.

And it was in Arizona that Betty joined us. Betty is a true child of the wanderlust and wide open spaces. We had expected her coming . . . but by some unaccountable mistake in calculation, not nearly so soon. So, when we pulled to a camp spot one evening and found her, an innocent-eyed, lop-eared mite in the trailer pen with Conchita, her mother goosing and cooing over her, we were about the most thunderstruck collec-

tion of voyagers that you could have found in all the western desert. About the only really self possessed individual at the moment was Betty herself. She stood there upon her tiny wobbly legs and blatted at us with all the vigor of her diminutive lungs. Victoria stared in amazement and said "O-ooo! Baby doat!"

That broke the spell. Rudyard shrieked: "Oh mother—daddy! See the little goat! Look there—look at the little goat!" (as if we were not already staring at it with all our eyes). "Oh! Oh! That's my goat!" He danced around.

Spoke up Rider, the official goat expert and field manager of the family. His words were very deliberate and final. "Oh yes?" he said. "Well that's my goat! Who do you think looks after them, anyway? And I'm going to call her Betty. I've always wanted to call something Betty!"

So that was that! And after we had bedded down Conchita and her new daughter with fresh grass and had hustled Juanita out of the pen to spend the night in grumbling protest hitched to the trailer wheel, we went to bed and to sleep. And in the morning went on our way happily. Betty is still with us. She is a lively and pert little rascal by now. And Rider has secret dreams of some time getting to be a "Goat Baron"—or something.

Cactus and the wind. A roadrunner scudding down a lonely road. Yuccas lifting savage bayonets against the sky; black shadows lurking in the clefts of sunshine-blazed buttes. White sand glaring in dry washes—and in the shady dimness of mesquite thickets the eternal whisper of wandering breezes that seem to sing the romance of long forgotten things. Arizona!

And Arizona brought to us our first real spring. It was deep in the heart of a grim butte. Mighty boulders—monstrous as the far away boulders of Yaquitepec—towered in a titan pile. It was as though, in the sparkling yucca-staked desert, some careless giant had dumped a wheelbarrow load and had wandered on. Bees hummed round the footslopes and silence and the sleepy sunlight brooded amidst the rocks. And when you had gone in through the gap in an old fence of ocotillo and had passed under the whispering shade of an ancient pomegranate tree and tangle of grape vines—a fence erected and trees planted by the hands of someone long since gone away into the silence—you came to the spring, hid deep under the overhang of a huge rock. A dark, tiny pool of cool soft water, grateful as nectar of the gods to a thirsty wayfarer.

There were caverns back in the boulders and we found bits of pottery. The Indians had been there in the long ago. Long, long even before the white man who had built the fence and planted the pomegranate tree and the grapevines. But they, like he, also had been gathered to the silence. The old fence cast shadows and the pomegranate tree rustled its leaves in dreams. Somehow the stillness was very hushed and heavy.

And the voices in our hearts cried "No. No! This is not the place. You must go on." So we turned away into the open desert.

The old tires still limp out the miles and the song of the sunlit winds croon a far call.

Yes, we must go on.

STAR TRAIL

*Oh Life, what riddles have you wrought!
With all our striving
With every ounce of work and thought
And hard contriving,
We still find conquests to be won
Beyond our gaining,
And pause amazed with effort gone,
Still unattaining.
With humbleness so deeply part,
With grief for storage,
Let us not wholly lose our heart—
Oh Life, breathe courage.*

—Tanya South

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GAZINE

Far out on the Mojave desert, in a little rock house that is seldom occupied, a thumb-worn Bible lies on the table just inside the unlocked door. Vandals never disturb this dwelling—and perhaps the answer is found in the pages of the Good Book itself.

Guardian of the Little Rock House

By DENNIS STOVALL

A WEATHER-BEATEN little rock house squats in the greasewood—miles from the Victorville-Lancaster road. There are no electric lights; there is no telephone, no radio, no running water, no street address. Yet it is a haven of rest, and that is where I go when the petty annoyances of living in a big city become too oppressive.

On my most recent trip out there I had as my companion an office-worn business man. We reached the shack just as a thunderstorm crashed over the mesas, bringing the day to a quick close. Not a star could be seen.

Burdened with our luggage, we scrambled from the car and groped through the black murk to the cabin. How good seemed its roof over our heads as we lighted a candle and started a fire in the rusty stove. There was still a supply of dry juniper in the woodbox where I had left it two months before.

Interior of the cabin—and the Bible that always lies on the table.



This is the little rock cabin on the Mojave where the author leaves the door unlocked—and nothing is ever stolen.

There was not a sign to indicate that any human being had entered the shack since I last visited it.

My companion was surprised to note the undisturbed condition of the shanty, wondering why, with the unlocked doors, there had been no pilfering. Absent homesteaders sometimes return to find everything movable gone from their claims.

But the contents of this shack never have been disturbed. Cookstove, chairs, bunks, benches, pots, kettles and dishes still remained.

Then he noticed a frayed, leather-covered Bible on the cracker-box stand. "Now I know why vandals have given this shack a clean pass!" he declared. "That old Bible scares 'em out—or works on their conscience. Quite a clever idea! Using the Good Book for a watchdog—"

"Listen!" I cut in. "I didn't leave that Bible in here. It belonged to this cabin long before I ever entered the door. It was the property of the widow who last made

the shanty her home. She and her husband located the claim. He built the two-room house, dug a well, installed a pump and gas engine. He actually cleared the greasewood from 40 acres of the quarter section, planted alfalfa and harvested several crops. They had a garden, chickens, a couple of milk cows and a team of horses.

"Then a tragic accident brought a sudden termination to their dreams. The homesteader was killed by a dynamite blast, while excavating a cellar. The widow struggled on alone—for nine years. Gradually the hard-earned accumulations dribbled away. The old desert edged in on the lonely shack—taking possession. The alfalfa field returned to greasewood and burrowed. The stock wandered off, and the lone widow, at the end of her means, was compelled to go . . ."

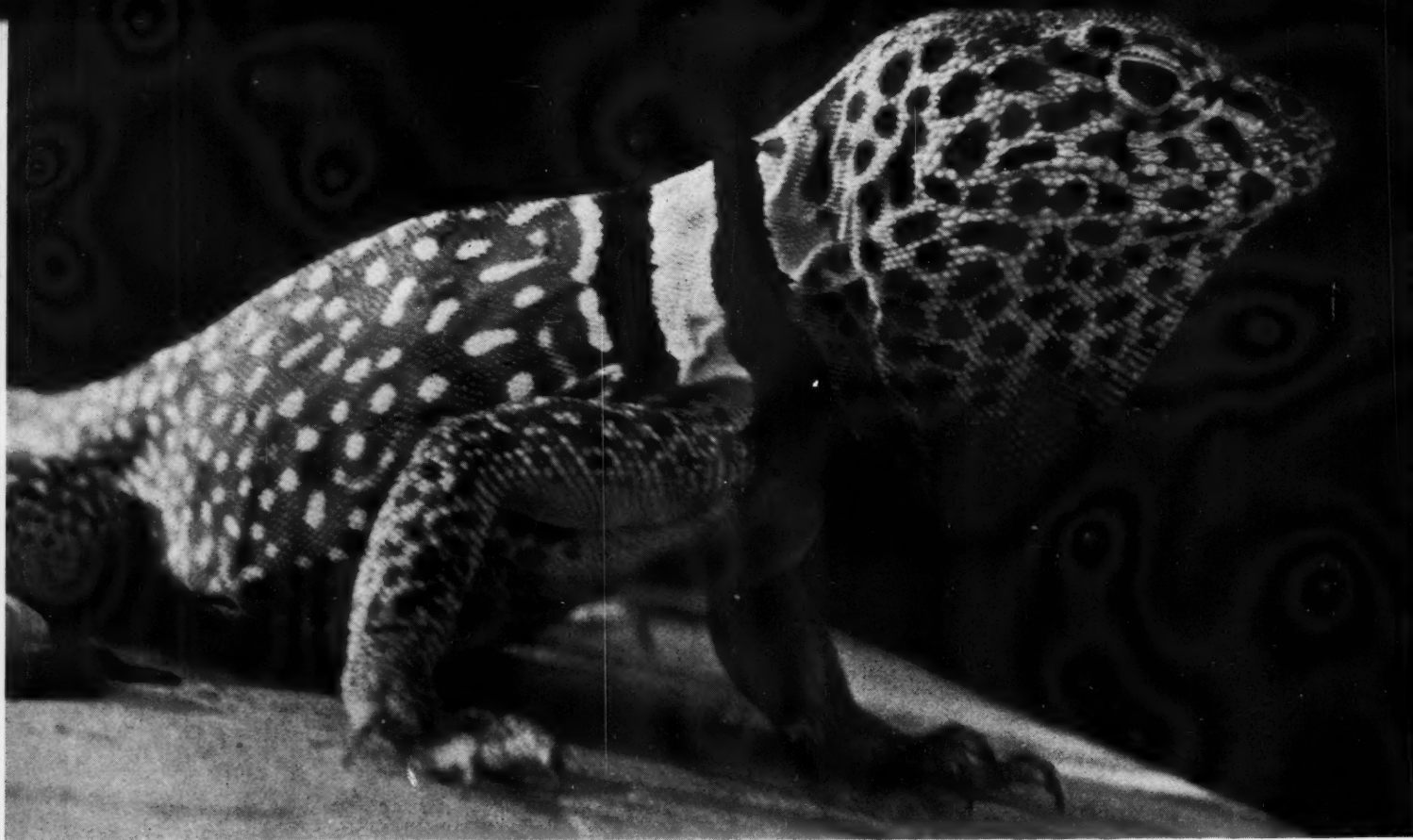
It became suddenly quiet in the shack. The wind had ceased abruptly, and the rain no longer drummed the low roof.

"But when she went away," I resumed, "which was all of 20 years ago, she left that old Bible on the box stand. Her husband had read from it many times, as they sat together in the friendly glow of a kerosene lamp. You will find its yellowed leaves thumb-worn, and many of the passages underlined . . ."

I went to the door and looked out. The stormclouds were racing on over the mesas, and in the widening rifts between them the desert stars shone brightly. The whispering wind brought a delicious fragrance of rain on greasewood. Nowhere, except on the desert, is there a smell so pungently refreshing.

"Come get a whiff of Mojave ozone!" I exclaimed.

But my companion just then was bent over the old Bible, reading a passage by the flickering candle light. "Listen to this!" he quoted: "There is nothing in mine house which they have not seen; nothing have they taken out, for the Lord abideth here!"



Collared Lizard

By JOE ORR
Los Angeles, California

First prize winner in this month's photographic contest shows a close-up of Bailey's Collared Lizard a moment after having consumed a Sand Lizard. Taken with a 3 1/4 x 4 1/4 Auto Graflex, 1/40 sec., F16. Super Pan Press Film.



Taos Indian Children

By FRED H. RAGSDALE
Los Angeles, California

Second place in Desert Magazine's monthly amateur photo contest was taken with a Rollicflex, Plus-X film, G. filter.

Special Merit

The following photos were judged to have special merit:

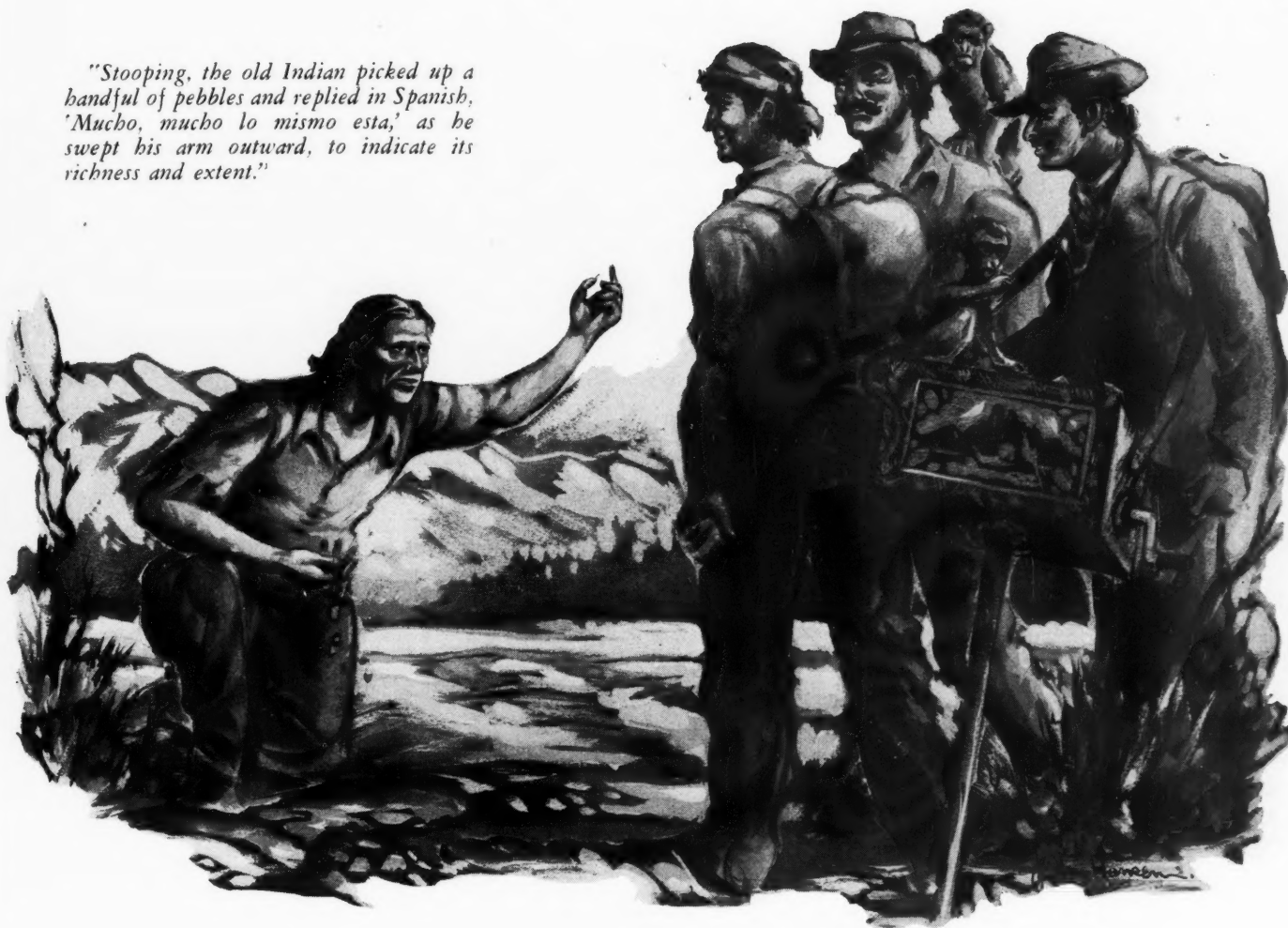
"Isleta Mission," by Margaret Bundren, Dallas, Texas.

"Deer Camouflage," by Mrs. L. J. Anderson, San Fernando, California.

"Beavertail Cactus," by Doris C. Priestley, Pomona, California.

THE DESERT MAGAZINE

"Stooping, the old Indian picked up a handful of pebbles and replied in Spanish, 'Mucho, mucho lo mismo esta,' as he swept his arm outward, to indicate its richness and extent."



Lost Organ Grinders' Ledge

By JOHN D. MITCHELL
Illustration by JOHN HANSEN

THE LATE Bill Bear, an old-time Arizona prospector, trapper and squaw man, is authority for the following story:

"In the early sixties," said Bill, "three Italian organ grinders each with a hand organ and a trained monkey traveling from La Paz on the Colorado river to Granite creek near Prescott, Arizona, turned aside from the trail one day to rest in the shade of a mesquite tree.

"Here they found an old Indian lying down, wearied and almost dead from thirst and heat. They shared the contents of their canteens with him and gave him food from their meager supply. Grateful for their kindness, the old Mojave offered to show them a rich gold mine. They hesitated and questioned him as to its richness and probable value.

"Stooping, the Indian picked up a handful of pebbles and replied in Spanish, 'Mucho, mucho, lo mismo esta,' as he swept his arm outward, to indicate its

richness and extent. The organ grinders required no further urging, but prepared at once to follow the old Mojave into the hills.

"Two days' travel across the burning sands brought them to the Santa Maria river and on the third day they reached a deep canyon up in the hills north of Peeples' canyon. A small stream of clear water trickled from under a big rock and two or three cottonwood trees grew by the little spring. After making camp the Indian pointed westward and said laconically, 'Busca' (hunt). He then threw himself upon the ground and rolled a cigarette, as if that were the only interest he had in life.

"The three Italians hurried westward

and at a point a few hundred yards distance in a tributary arroyo a small ledge of dark colored rock arrested their attention. They broke off a piece, which glistened in the afternoon sunlight. It was thickly studded with gold. The yellow metal seemed to be present, sparkling and glittering, wherever they broke the rock. They sat down and gazed at the golden treasure, then broke off more, reveling in the dreams of a Monte Cristo. Not until the evening shadows crept down upon them did they return to their campfire.

"The old Mojave lay sleeping, but little sleep came to the three Italians during the long night, for were they not rich? On the morrow they filled several small bags with pieces of quartz and golden nuggets

from the ledge where it outcropped in the wash and then prepared to leave. They had little food with them and intended to return as soon as possible to dig out their fortunes.

They covered up the ledge and after marking the locality well, drew a rough map of the place, noting a few of the most prominent landmarks and plainly marking the trail leading from the Santa Maria river. As the sun sank low over the western hills they started back, preferring to travel by night to avoid an attack by the Hualpais, enemies of the Mojaves. The little party reached Tres Alamos springs in safety, resting there overnight. They planned to start early the next morning for Wickenburg, which was the nearest town.

"Just before the faint glow of dawn streaked the east, a hideous yell startled the tired sleepers. Three or four Hualpai Indians sprang upon them killing the Mojave and two of the Italians. The third Italian, for the moment screened by some thick bushes, made his escape. After killing the three men the Indians left the scene hastily, evidently fearing pursuit by the soldiers from Camp Date which was not far away.

"When the Indians had gone the lone Italian returned and placed the bodies of his three friends together and after piling dry brush over them, he set fire to the funeral pyre. Then he put the crude map and a written page in a small metal box from one of the hand organs and buried it under a large boulder near the little spring.

"Gathering up the bags of gold and filling one of the canteens with water, he set out on the long journey across the parched desert in the direction of Wickenburg. The three little monkeys were released at the spring to shift for themselves as best they could.

"Two days later Francisco Gonzales, a teamster making his way across the desert from Weaver creek to Wickenburg, found the unfortunate Italian lying face down in the sand by the side of the road clutching the bags of gold in his hands and almost dead from thirst. He was placed in the wagon and after being given some water the Italian revived sufficiently to tell his story in broken Spanish, but died before reaching Wickenburg.

"The ledge has not been found."

LANDMARK IN NEVADA! Who knows the history of this house?



PRIZE CONTEST ANNOUNCEMENT . . .

Somewhere in Nevada stands this historic building—a relic of the old West which has been a popular subject for amateur photographers for many years.

If you have visited the ghost towns of the ore-laden hills in Nevada you have undoubtedly seen this well-preserved old structure. Was it built by a mine boss, an eccentric bartender or as a curio store? Who owns it today?

It has an interesting history, and Desert Magazine readers will want to know the story. In order to obtain all possible facts, a prize of \$5.00 will be awarded the person who gives the most complete and authentic information in a manuscript of 500 words. The article should give the location, accessibility, present status and as much historical data as possible.

Entries in the contest must reach Desert office in El Centro by November 20. The winning manuscript will be published in the January issue.

Sez Hard Rock Shorty of Death Valley

By LON GARRISON



"Honesty," asserted Hard Rock Shorty, "is still the best policy. Not that ever' body practices it, yuh understand, but it's still a good idea if it happens to be convenient an' don't cost yuh nothin'."

Hard Rock leaned back in his chair to have more energy for his conversation.

"Funny thing, but one o' the honestest fellers I ever knowed, old Deacon Daniels, was a gambler over to the Silver Dollar. That was back when Inferno was boomin' an' we thought we was goin' to have the main line o' the railroad in here to haul our profits out an' our supplies in. Deacon was about as handy a cuss with cards as is legal, was a real polite gentleman, an' on top o' that was so honest they asked 'im to pass the collection plate on Sunday.

"I was over there at the Silver Dollar one time watchin' Deacon play a two handed game o' stud with a stranger that was dressed like he was just a jackass prospector in fer some fun. But, I wasn't so sure. The stranger was winnin' pretty steady an' they was playin' fer good stakes an' that didn't look like no prospector to me. I was standin' right back o' the Deacon when this other feller was dealin' an' all of a sudden I nudged the Deacon an' lent down an' whispered in 'is ear—

"Say—I just saw that guy deal hisself a card from the bottom o' the deck!"

"Deacon looked around at me an' he was plumb disgusted. He wasn't excited—wasn't callin' names—he just called my attention to the one detail I'd overlooked.

"'After all,' says the Deacon as calm an' confident as a preacher on resurrection day, 'after all, it's his deal, ain't it?'"

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AZINE



CAPT. T. J. JEFFORDS, THE CHIEF OF THE APACHES, AND KNOWN AMONG THEM AS "TA-HAZ-LA-EE-TONE," MEANING RED WHISKERS.

Capt. T. J. Jeffords, known among Apaches as Ta-baz-la-ee-tone, Red Beard.

A HOT breeze rustled the dead cactus stalks, and moaned across the bleached rocks. The granite boulders of the Dragoons blazed and shimmered under the scorching Arizona sun, like the whitened bones of a giant skeleton.

High up on the summit, on the rugged rim of the secret Apache stronghold, Indian lookouts watched the lone white man struggle up toward the hidden, rock-crenellated entrance. Inside the natural fortress was camped the brave and wily leader of the Apaches—a swiftly-stabbing warrior who laughed grimly at the blundering, slow-moving white troops—a warrior who had slaughtered every white man who had come within his fierce power—Cochise, war-chieftain of the Apaches.

"Alone?" the chief asked his lookouts. "Enju. It is well. Let him come."

In silence the dark-faced braves fingered the triggers of their rifles, grasped the long hafts of their war-lances. In silence the tall, red-bearded man struggled up through the sun-blasted rocks to where Cochise was seated. In silence the white man handed his rifle, his pistol and his hunting knife to an Indian woman. In silence the lone paleface sat down before the great chief. The women ceased their chatter, stopped grinding their corn, stopped sewing their moccasins. The naked Indian children had stopped their play. All eyes were on this strange white man who dared to come into their camp, alone. It had been seven long blood-filled years since any white man had set eyes upon the mighty Cochise and lived to tell the story.

The stranger looked into Cochise's eyes. Their glances locked. The silence deepened. Far away, on the ragged crest of the mountain, an eagle screamed. The vagrant breeze stirred the dry junipers and oaks, sighing through the hot air. This white man knew the Indian customs. He waited long, tensely

Fierce Apache eyes were trained upon a lone white man as he struggled up to the rock-buttressed stronghold of their chieftain. It had been seven years since any white man had dared the presence of wily Cochise—and lived to tell of it. But this tall red-bearded man lived not only to become the blood-brother of the Apache chief but to consummate a treaty without equal in the annals of American history. Here is the story of Captain Tom Jeffords—frontiersman extraordinary.

Blood Brother of the Apaches

By SHERMAN BAKER

pulsating moments until the chieftain gravely nodded. Then the red-bearded man spoke.

"I am Captain Jeffords," he said, and his voice seemed shrill in the mountain stillness. "I have come for a *noshti*, a treaty-talk."

"Enju. It is well." Cochise's deep voice was grave.

"I am government superintendent of mails between Mesilla, Fort Bowie and Tucson," continued the tall, muscular white man, his voice under control now. "In the last few months you have killed 14 of my men. I have come to spend two days here with you to talk things over."

There was silence again. Jeffords looked away from the chief, and saw the threatening faces of the hostile braves watching his every move. He looked back at Cochise.

Cochise spoke again, and his voice was hot and sharp, like the crack of a rifle-shot. "The white men have driven the game from the mountains of our fathers. The white men have stolen our lands, and poisoned our waterholes. They have lied to us and they have tricked us, and they have murdered our young men. Since I went on the warpath I have killed every white man I could find. How do you know that you will ever see the sun go down over your own campfire again?"

"Because between brave men there is always honor," replied Jeffords.

The proud head of the Apache chieftain rose high, and his black eyes flashed. "Enju. It is well. We will talk."

He rose and gave orders to his men.

That night there was feasting in the secret headquarters of the Apaches high up in the Dragoons. There was roast antelope, and sweet meal of ground hackberries, and cakes of mescal covered with flour made of mesquite beans, and *tizwin* to drink. And a treaty without equal in the annals of American history was consummated between the fiercest of all Indian tribes and—a single white man.

The scene was Arizona in 1867.

The white man was Thomas Jonathan Jeffords, red-bearded Arizona frontiersman, ex-Mississippi steamboat skipper. Captain Jeffords was born in far-off Chautauqua county, New York, in 1832. Of a roving and adventurous nature, he wandered West at an early age. Jack-of-all-trades, like all the early pioneers, and soon tiring of Mississippi stern-wheelers, Jeffords laid out the road from Leavenworth, Kansas, to Denver, in 1858. The next winter he spent in Taos, New Mexico, then

wandered throughout the mountains of New Mexico, hunting deer and prospecting for gold.

Jeffords first came to Arizona when he was 30 years old in 1862 as a government scout, bearing dispatches. He piloted the advance guard of California's Civil war column through Arizona into New Mexico and fought in the battle of Val Verde.

He was a tall straight-dealing man over six feet in height. For a time he drove a stage over the old Butterfield route. He carried the scars of many Apache arrows on his body. After his treaty with Cochise the Apaches never troubled him. Cochise respected the bravery of a man who would come single-handed into a hostile camp, and demand his rights. Cochise so much admired Jeffords that the two men became blood-brothers by the mystic Apache rite of drinking each other's blood.

At this time the Apaches under Cochise were threatening all Arizona, were driving all white men out of the country. The United States army could cope with the other tribes, and even

had placed some of the Apache sub-tribes on reservations. But wisest, fiercest, haughtiest and most blood-thirsty of all the Apaches was Cochise.

Finally in 1872, President Grant sent General Howard as a special emissary, with plenipotentiary powers, to make a treaty on Cochise's terms with this great chieftain. But so secret was this quick-striking warrior that Howard could not even get into communication with Cochise.

One day General Howard heard of a singular frontier character called Tom Jeffords. Jeffords, everybody said, would lead him to Cochise. Howard met Jeffords and asked him, "Can you take me to the camp of Cochise?"

Jeffords, blood-brother of the Apaches, rose to his feet and looked the General steadily in the eye.

"Will you go there without soldiers?"

"Yes," answered Howard.

For the second time white men entered the secret stronghold of the Apaches. Jeffords led Howard high up into the Dragoons into the rock-walled headquarters where he first met Cochise. In this stronghold was held the famous *nosh-ti* or treaty-smoke between the emissary of the United States and the chief of the Apache Indians.

Eleven days General Howard and Jeffords stayed in the impregnable natural fortress and on the eleventh day they came to terms with Cochise. Cochise would accept no white man as agent except Jeffords. There was much talk at the councils. Finally Howard capitulated and gave Cochise all he demanded. The Apaches were given their own territory as a reservation, and Jeffords was made Indian agent. The government owed him several thousand dollars, which he would forfeit if he accepted the post, and Jeffords did not want the job, but to put an end to the spilling of blood he accepted the post, stipulating that he be given absolute authority on the reservation.

For four years, when all Arizona was boiling with Indian trouble, Jeffords' Apaches were at peace. Renegades, hostile Apaches of other tribes were constantly endeavoring to get Cochise and his tribesmen to come to their aid and help them plunder the whites. But Cochise sat at the right hand of Captain Jeffords at the councils, and there was peace.

Jeffords had his troubles while at the agency. It was well over a year before he was given money by the government to pay for agency business. While he sometimes had beef, he was frequently out of other food and supplies and was not given authority to buy any. The government seems to have entirely forgotten the presence of the Chiricahua Apache agency. Jeffords' faithful Apaches at times came near starving. Their natural method of making a living was by raiding but they lived up to their side of the treaty, even though the government did not.

One hot June evening the great Cochise called his blood-brother to his side.

"*Shi-ca-shen*," he said, and his deep voice was unusually grave. "Brother, tomorrow I think I shall die, at ten o'clock. Do you think we shall ever meet again?"

Captain Jeffords took a long look at the sick chieftain. When he spoke his voice broke. "I don't know. I don't know. What do you think?"

"I think so. *Enju*. It is well," the chief replied.

As he had predicted, Cochise died at ten o'clock the next day—the 8th of June, 1874. But before he died his warriors carried him high in the gaunt rocks of the Dragoons so that the great warrior could see the sun rise over the mountains to the east.

No one knows just where the great Apache was buried. Somewhere in the Dragoons he lies, perhaps in a cave high up on some cliff, perhaps deep in some cleft of the rocks, perhaps out on the mesa at the foot of the mountains. But wherever he is his face is toward the east, toward the rising sun, forever toward the great Giver of Life.

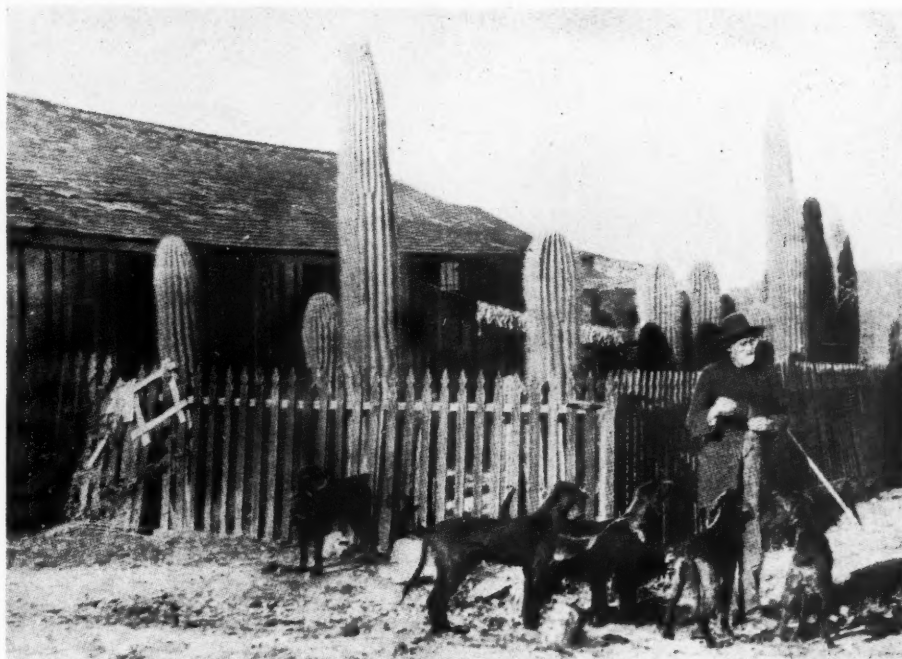
Jeffords, the silent blood-brother of the great Apache, knew



Apache basketmaker. C. C. Pierce collection.



Apache scout. C. C. Pierce collection.



Captain Jeffords in later life. C. C. Pierce collection.

where the burial-place was, but Jeffords remained faithful to his Indian brother all the rest of his life, and Jeffords carried the secret to his grave. Many curious white men asked Jeffords where the old chieftain was buried. Jeffords told them one thing and then another—each story so vague that no one has ever even attempted to locate the burial-place of the greatest of all the Apaches.

The day after Cochise died all his tribesmen stripped themselves of their turbans, their loin-cloths, their antelope-skin moccasins, and burned them in an enormous pile. The great chief would not be without clothing in the spirit world.

With Cochise's son Tahzay as head-chief, Jeffords managed his charges fairly well after the death of Cochise. But the white man's medicine was strong. One day in 1876, strictly against Jeffords' orders, two vicious white men sold whiskey—poisoned whiskey at that—to the Indians. Several of the Apaches got drunk and killed these two white renegades. Terror swept like the summer whirlwind over the agency. Tahzay and Nachise, Cochise's two sons, faithful to their father's sacred treaty with Howard, killed some of the Apaches who had done the drunken deed. But the army had been looking for some excuse to deprive Jeffords of his power, and to drive away the Chiricahuas. So, because of two greedy white traders, Cochise's treaty of peace was broken—by the whites—and the Chiricahua Apaches were herded away to strange lands. It was the old, old story all over again.

And Thomas Jonathan Jeffords, brother to the Apaches, an intrepid and honest man who had guided the peaceful destinies of over a thousand wild Indians whose previous daily bread had been earned by raiding, and raiding alone, was dismissed. Thomas Jonathan Jeffords, white brother to the Apaches, who had kept his charges' feet on the path of peace, was dismissed, and his life-work—peace between the Apaches and the whites—shattered.

Broken in health, his mind oppressed by the white man's injustice and trickery toward the Indian, Captain Jeffords, his red beard now turned to white, wandered away into the mountains, alone, alone as he was when he first looked into the dark-shadowed eyes of Cochise. Jeffords was last heard of alive prospecting for gold near Owl's Head, a mining camp in Pinal county, Arizona. He died February 19, 1914. He was buried in Tucson. Perhaps by chance his face is turned toward the east, toward the rising sun, and toward his Apache brother.

And high up, somewhere in the Dragoon mountains, a hot breeze rustles the dead yucca stalks, and moans softly across the bleached bones of Cochise, war-chieftain of the Apaches, united forever with his faithful blood-brother, secure in eternal peace at last.

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PALM SPRINGS, CALIFORNIA

MUSHROOM ROCK

Winner of Desert Magazine's Landmark contest in September was Mildred G. Mossman of Trona, California. Of the many excellent descriptions of Death Valley's Mushroom Rock received, the winning manuscript reproduced on this page was judged to have the greatest accuracy and completeness.



By MILDRED G. MOSSMAN

THE LANDMARK shown in the September, 1942, issue of Desert Magazine is known as "Mushroom Rock." It stands close to the road between Furnace Creek and the Devil's Golf course in Southern California's Death Valley. It is exactly 4.6 miles down the East Highway from Furnace Creek.

In 1933 Death Valley was proclaimed a national monument. Although most of its area is in California, it now includes a small section in Nevada. On the west it is rimmed by the Panamint mountains; on the east, by the Grapevine, Funeral and Black mountains. The Last Chance Range pinches out the northern end of the Valley, and the Avawatz and the Owlshead mountains block it at the south. From northern California one would travel south on Highway 395, turning left at Olancha to take the paved, well-marked road into Death Valley. This road leads the traveler past historic Darwin falls and Emigrant wash of '49er fame, north to Stovepipe Wells or south to Furnace Creek.

The East Highway, mentioned above, runs south to Volcanic Drive and picturesque Artists' Drive, but just before entering Volcanic Drive, the tourist will encounter, perhaps four feet off the road, the strange formation known as Mushroom Rock. It is perhaps eight feet high, and about five feet in diameter. Its stem is about four feet high, and a foot in diam-

eter. Carved by wind and sand from black lava, it is truly a giant, ebony-hued mushroom. Its lava dome is interspersed with holes, these probably resulting from the action of erosion upon the weaker structures of the rock.

Speculation upon its geologic origin is as interesting as the Valley in which it is found. Death Valley's creation has been

a puzzle to geologists, and there are as many theories as to its making as there are geologists. So, too, are there many theories as to the creating of Mushroom Rock.

This landmark may have been formed by lava flowing in upon interstices of clay and silt during a period of volcanic activity. Then came wind-borne sand to blast the softer sides of its matrix from it, leaving it partially exposed. This same weather agent then spent its force upon the dome of the rock, now partly exposed, creating the cavities which are present today, and wearing away the material holding its base until it, too, stands exposed to the light of day.

The matrix for the rock also might have been formed of clay when the Valley was covered by a huge lake. Succeeding climatic changes caused the water to evaporate, leaving the clay matrix intact. During a later period of volcanic upheaval, lava may have flowed into this matrix, and succeeding erosive action may have bared the rock, whole and intact, in true mushroom formation. Continued action of those same agents, wind and sand, then may have produced the porous fungus-like formation which can be seen today in this part of our Great American desert.

Mushroom Rock is as truly an identification mark of the Death Valley region as Furnace Creek ranch with its early borax-wagon display or Badwater with its fame as the "lowest spot in North America." Visitors to the Valley cannot escape the sight of this marker standing black and bald upon the bare Valley floor. It represents one of Nature's paradoxes in a region alive with geologic wonder—for only Death Valley, dry and sun-drenched, could have spawned such a gargantuan likeness of the edible fungus usually cultivated in wet, dark cellars.

Prizes to Amateur Photographers

Each month the Desert Magazine offers cash awards of \$5.00 and \$3.00 for first and second place winners in an amateur photographic contest. The staff also reserves the right to buy any non-winning pictures.

Pictures submitted in the contest are limited to desert subjects, but there is no restriction as to the residence of the photographer. Subjects may include Indian pictures, plant and animal life of the desert, rock formations—in fact everything that belongs essentially to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the Novem-

ber contest must be received at the Desert Magazine office by November 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, 3 1/4 x 5 1/2 or larger, and must be on glossy paper.

Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the November contest will be announced and the pictures published in the January, 1943, number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.

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Queenie sits in the sun weaving a basket for the state fair. Note devil-claw (soaking and in bundles) which she uses for black design. Courtesy U. S. Indian Service.

Basketmaker of the Hualpai

By MARGARET STONE

"SIT WITH me in the sun. You look too white against our desert." The serene old Hualpai woman made a place for me beside her as she sat in the sand patiently weaving a basket. To the north the rainbow colored rim of the Grand Canyon shimmered in Arizona's white midday sun, and far southward the Hualpai mountains formed a barrier of snow crowned crags.

Queenie was making a "water tight" basket. And she talked as she worked. "Why do you go away to the eastern cities and stay so long? It isn't good to do. Look at me. I've never been gone from here. I born here, I live here. Sometime not too far away, I die here." She raised her soft brown eyes to me and they brimmed with mischief. "But not before the state fair this fall I hope. I want to take first prize again from that Rosie Hu-wah.

"Three years I have take first prize with the same basket, and Rosie complain to the agent. He say to me, 'Queenie, you not send that basket to the fair again. You make new basket or I not send anything from you, just from Rosie.' Then I know she make mad talk to him. But you look at this basket. It is big. It is firm. When it is finished the agent will turn it upside down

Queenie of the Hualpai is making a basket—the finest that can be woven with strands of split-willow and devil-claw. She is putting into it all the skill of a lifetime spent in the art of basket-making. This is to be her best basket because it will be entered in the state fair where her craftsmanship will compete for prizes with the basketry of Rosie Hu-wah—and she mustn't be outdone by Rosie. Here's a story that will confirm what you and I have long suspected—that the heart of a woman is about the same everywhere, regardless of whether her skin is black or white or brown or yellow.

and stand on it to see if it will bend or go out of shape. He weigh 200 pounds, but my basket will not stoop under him. You wait and see; I take first prize again this year and then will that Rosie be mad!" She giggled softly and I joined her. Truly we women are all alike, whether we live in New York apartments or crude brush hewas on the Arizona desert.

Very little, surprisingly little has been written about the Hualpai Indians whose reservation skirts U. S. Highway 66 for miles through northern Arizona. But their story has been written in brave deeds by the men and beautiful baskets by the women, and the powerful Santa Fe railway has found them a thorn in the flesh for many years. The railroad claims the land from which gushes precious Peach Springs, and the fight has been waged throughout the courts of Arizona, District Supreme Court of California, and always the Indians lost. Last December the Hualpais won when the United States supreme court reversed the decisions of the lower courts in a unanimous decision affirming possessory rights of Indians in lands which they have occupied from time immemorial, even when title to such lands has been granted to a railroad! Thus, at last a court



Tattoo lines on the chin, made with the juice of the mescal, indicate this Hualpai woman is in mourning. Photograph, courtesy Bureau of American Ethnology.

accepts the Father-to-Son History Record, only method of recording known to the Indians.

Many old scouts who led blue-clad soldiers on the trail of Geronimo, hang around the trading post at Peach Springs living again in each telling, the brief glory of the distant past. Queenie's husband was a scout, but he is now dead and the government sends her a pittance each month. With this and her basket making she is quite the independent old lady. For years she followed the fortunes of her scout husband, and to her are known all the beauties and mysteries of the Painted Desert wastes, the frightening depths of Diamond Creek canyon where renegade Apaches used to hide, and the garden of eden spots of the reservation where peach trees are tucked away bearing luscious fruit so coveted by the Hualpais and their relative tribe of Supais. These juniper studded slopes of the highlands are also home to her. When she patiently followed her husband into the hills she made rock fireplaces, threw together a few pine boughs and there was home.

"What did you cook on the stone fireplace?"

"Oh, I roasted mescal. You know mescal?" Not waiting for my answer she went on, "It's the core and upper root of the soapweed plant (yucca). I took a stout knife, trimmed off the stiff leaves, and then I threw it into a pit filled with hot rocks. I

buried it with sand. After the sun reached the same place in the sky the next day I dug it up again. It was cooked soft and tasted like the sweet potatoes I pay too much for at the trading post!" Again her elfish giggle. "We either ate it right then or dried it in the sun to carry along and eat when we were close to Apaches and dared not make a fire. Sometimes I took the brown juice that stewed out and rolled it into sticky balls and let it dry."

"What for?"

She gave me a stern look. "I saw you at the Pow-wow last night, where you should not have been, and where Lu-chee-ia was dead. I saw you looking at the painting on the chins of the women, the painting which showed the women were sad inside. Well, mescal juice made those marks on their chins."

"Lu-chee-ia was my friend," I defended myself. "Why shouldn't I have gone to grieve when she was dead?" I got no answer, but she went on with the Hualpai menu. "And on my fireplace I prepared the prickly pear leaves so we could eat them. I'd take a juicy leaf and put a sharp stick through it. When I held it over the flame a little while all the stickers were burned away. Those leaves laid on a hot rock and baked are lots better than the things you white people eat. The fruit, the little red apples which come after the flowers are gone make good 'lemonade' when they are pounded up and steeped in hot water. No wonder the white soldiers could not catch the Apaches. The soldiers had to carry food and water with them while we Indians can live endlessly from the gifts of the desert."

All the time Queenie was talking she was scraping the thin bark from willow twigs and then by holding one end in her teeth she divided each twig into three equal portions. The pith was scraped from the center with a dull knife. She grumbled as she worked. Winter is the proper time for basket making when



Fifteen-year-old mother and baby. An uncommon marriage was this—between a Supai girl and a Hualpai. Courtesy U. S. Indian service.

the women hover over their pungent cedar fires kept burning constantly in order to combat the intense cold of the high region. But this basket could not wait for winter if it were to humble her rival at the September fair.

I have no doubt she'll win the prize, for the basket, incomplete as it was, showed its superiority. Fine and close the weaving, beautifully shaped, and on it the black figures looked like they were stenciled instead of interwoven. Only one strip is taken from the exact center of each devil-claw seed pod (Martynia) for these black decorations. I thought three strips could be secured but Queenie waved away my suggestion. "Always we take but one."

Two types of baskets are made by the Hualpai women, both similar to the work of the Supais, their blood relatives and close neighbors. The cheaper and more common variety looks as though it were woven inside out, and since these are made mostly for tourist trade, they are brightly decorated with commercial dyes. Almost daily Hualpai women trail into the trading post carrying one or more such baskets to trade for food and tobacco.

The women are inclined to be fat, and the mother-hubbard dresses of gaudy calico with which they clothe themselves do nothing to alter the impression. Over their shoulders they stretch bright handkerchiefs, cotton for common occasions and silk for special events.

Men of the tribe dress like cowboys and are quite civilized when it comes to drinking and gambling. They are very broad minded, however, and always share their liquor and cards with the women folk of the household. In fact each summer afternoon is spent in community card games mostly organized and run by the women. In these games, baskets, jewelry, handkerchiefs from their shoulders, even the food in their "hewas" (houses) change ownership. I've seen pretty Lupe Synella parade majestically along the trail in direction of the card game, gaily clad in a bright green dress. Hours later that same Lupe slunk home the back way wrapped in a blanket and Maggie Wattahomigie strutted the front street gay in the green garment. Gambling is contract bridge at its deadliest when Hualpai ladies play.

Children just seem to grow up unassisted. They are round and

fat and dirty and usually squalling at the top of their healthy lungs. They shouldn't cry at all because they have their ears pierced with a sharp yucca thorn and a rawhide string tied through the puncture before they are a year old, just to keep them from crying. There seems to be a gentleman's agreement among the women of the tribe that no child shall be utterly motherless, and when the mother of small children dies, the babies are sheltered in homes before the sun goes down.

Few tribal ceremonies or dances bring the people together for celebrations. In fact the only one that has endured through the years is the Feast of Mourning, or as they call it now "Pow-wow for the Dead." That was the ceremony I attended, much to the disapproval of Queenie.

Formerly there was a general mourning once a year which covered all the deaths in the tribe, but it is now more fashionable to have separate special ceremonies at the time of each death. It begins at sunset on the day of death and lasts until sunset of the following day. Everyone brings food, his fastest racehorse and the newest deck of cards, and there isn't a dull moment. Sometime during the night the body is spirited away and taken to a secret burial place high among the crags of a neighboring mountain. Only chosen members of the tribe know the location of this lonely graveyard and it would be bad manners as well as poor judgment for any white man to go searching for it.

Grand Canyon is the personal achievement of the Hualpai tribe. In the dim past a terrible flood covered the earth with water and threatened to destroy the home of the Indians. Pach-i-tha-wi, a brave and handsome young warrior took a flint knife and a heavy club, and made a ditch through which the water rushed to the Sea of the Sunset (Pacific). From that day on the ditch has served to save their country from flood and has deepened and widened into Grand Canyon. Queenie told me so, as she wove her basket there in the brilliant sunshine.

Raising their cattle, weaving their baskets, tending strictly to their own business the 700 Hualpai Indians are fearful that Japanese people will be sent to live among them, so fearful that many of their young men volunteered to fight against them, and now wear the uniform of Uncle Sam.

Where Hualpai and Supai lands meet. The Hualpai live on the plateau, the Supai in the canyon—in northern Arizona. Photo, courtesy U. S. Indian service.





Cave of the Giant Sloths

Here is an undisturbed section of the floor of Rampart Cave, looking just as it did thousands of years ago when it was abandoned by the last sloth.

It probably has been 20,000 years since the giant ground sloth clumsily ambled over the rocks of the Nevada and Arizona desert—but scientific men today can tell what he looked like, how he walked, what he ate, and where and how he obtained his food. And if you are wondering how they have been able to piece together so complete a story about a beast that lived thousands of years before human beings had a written language, here is the answer, written by one of the laboratory sleuths who dug the evidence out of the dusty floor of Rampart Cave.

By JERRY LAUDERMILK
Photographs by Hulbert Burroughs

IN MAY 1937 I received a letter from Dr. Chester Stock asking me if I would take charge of an expedition for the Carnegie Institution of Washington to the newly discovered Rampart Cave on the Arizona shore of Lake Mead. The outfit was to consist of Dr. Phil Munz of Pomona college, botanist, Dick Nimmons, reporter, Hulbert Burroughs, photographer and myself as microscopist and geologist.

The Carnegie Institution was interested in Rampart Cave because it contained remains of the extinct giant ground-sloth: mummified sloths, bones, and layer after layer of sloth dung. The sloth dung was to be our special interest, since the sloth's bill-of-fare would give us a good idea as to what the climate was like possibly 20,000 years ago when the animal was alive. Microscopic study of the plant remains in the dung plus the same study of plants now growing in the vicinity of the cave would tell the story of change in climate.

Arrangements were soon made and by the middle of June we were on our way.

Through the fine cooperation of the national park service everything worked out perfectly. The park service was in charge of excavating and preserving the material from the cave. Naturally, we had to have their O.K. before we collected any specimens.

We made our headquarters at the CCC camp at Pierce's ferry, which is on the Colorado river about eight miles from the cave. Edward Schenck, geologist of the park service, and Willis Evans who discovered the cave, were our guides. A detail of CCC boys went along to carry our equipment.

In 1937 the only route to Rampart Cave was by way of Mead lake and the lower Colorado river. Through the courtesy of the park officials we were provided with a 45-foot launch, skipper included. Captain Emory, a man of long experience in Colorado river navigation, was one of the

most important factors in making our expedition a success. It takes experience and skill to get a boat through the congested traffic of tree trunks and other litter that cluttered up the surface of the lake.

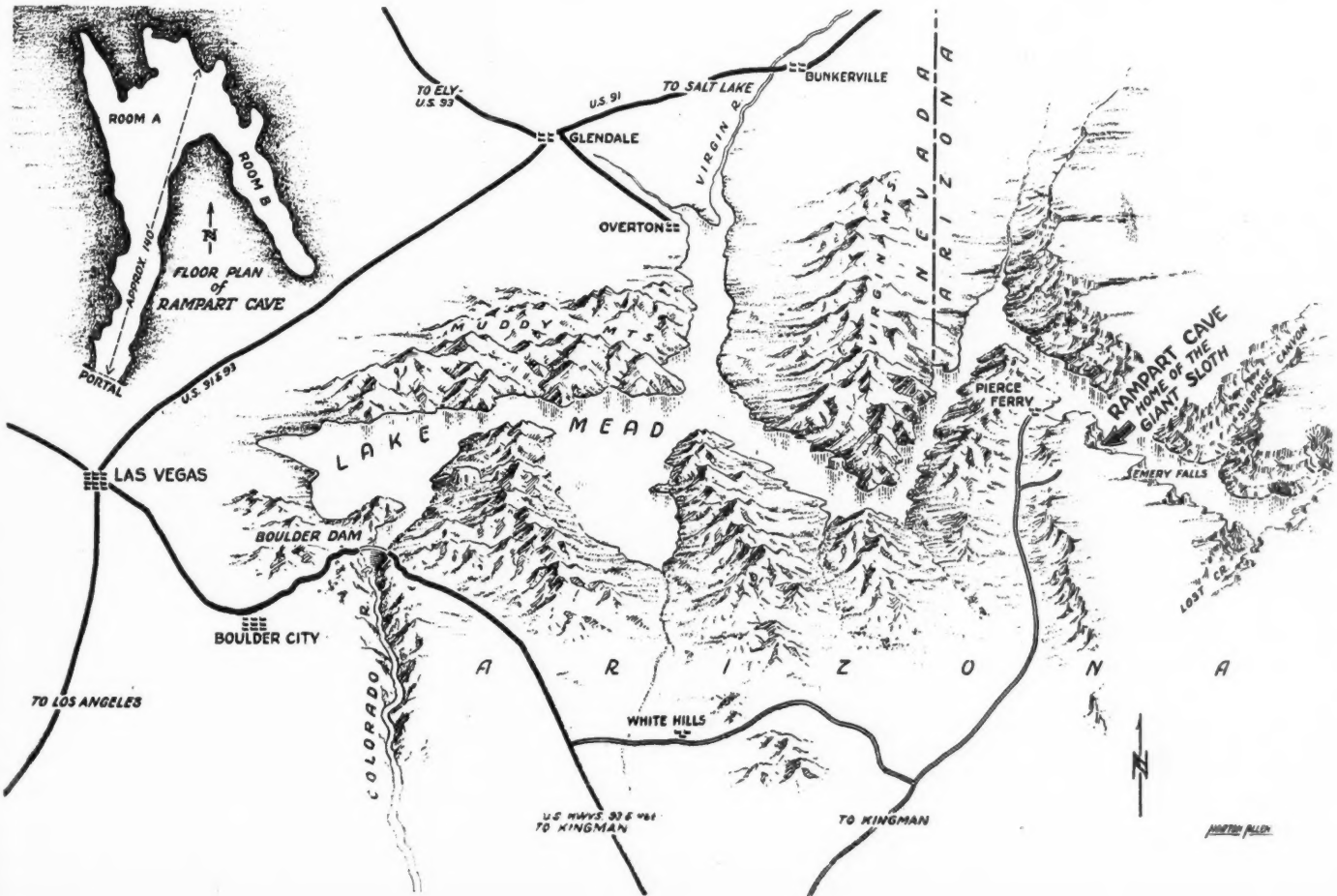
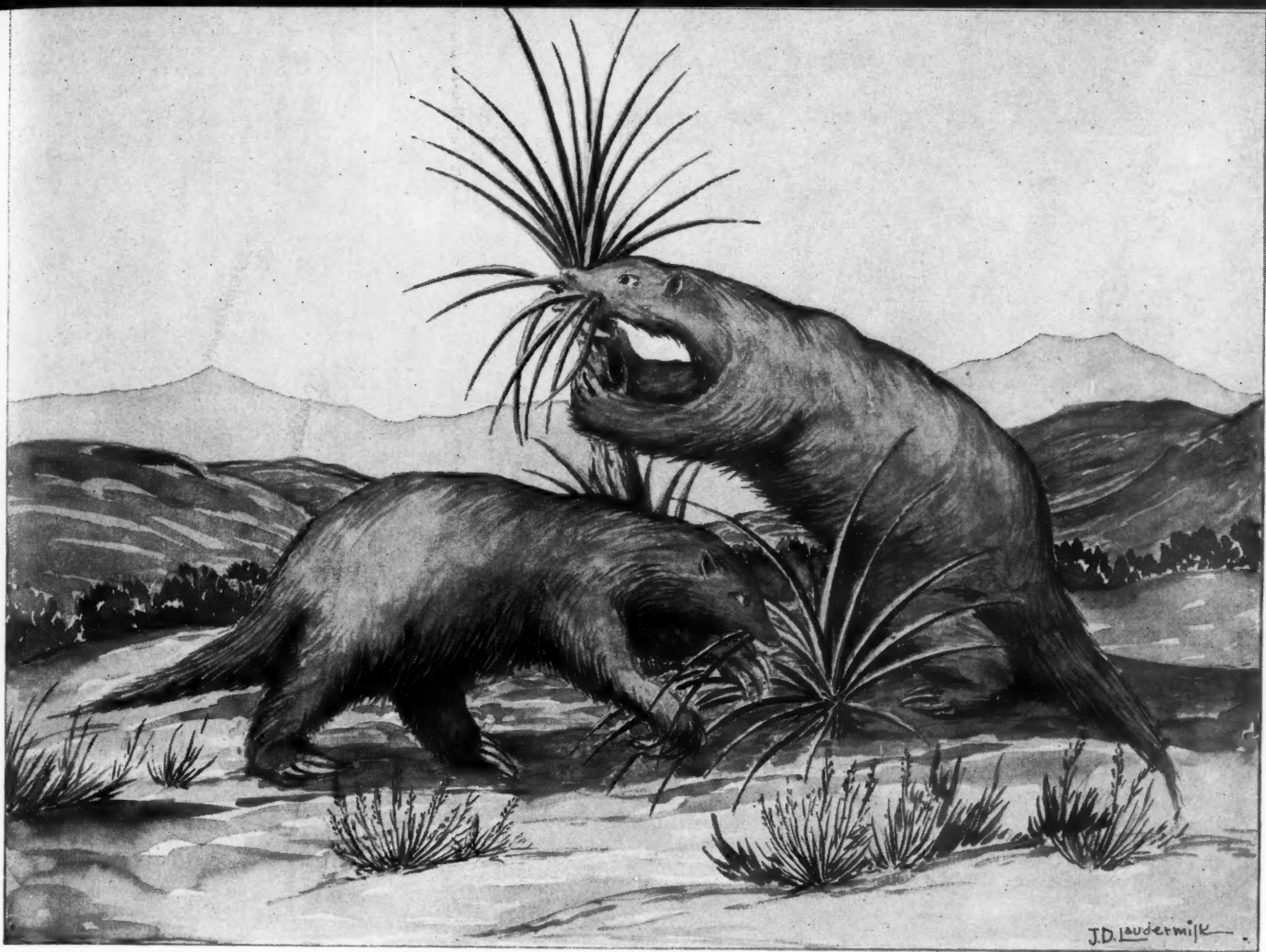
We landed on the river bank below Rampart Cave. From there it was a tough three-mile hike up a steep arroyo to the base of the cliff walls, and then some almost vertical climbing to reach the cave entrance.

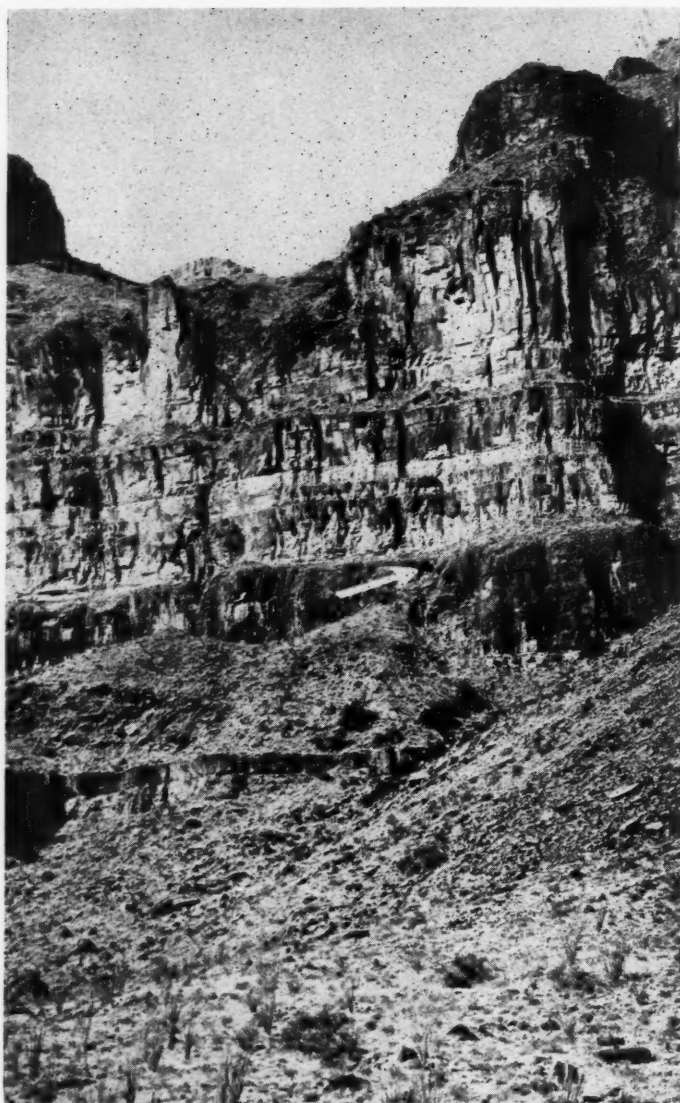
Our equipment was cumbersome. I carried a field-box full of glass sample tubes plus a gallon of preservative called "Farmer's fluid," a mixture of formaldehyde and alcohol. Fresh plant specimens preserved in this solution have all their microscopic details perfectly fixed and you don't have to worry about the finer structures being lost before you get back to the laboratory.

Rampart Cave is 100 miles up the Colorado from Boulder dam and about 700 feet above the river, in the sheer face of a cliff. It had been discovered in the summer of 1936 by Evans, a full-blooded Pitt River Indian.

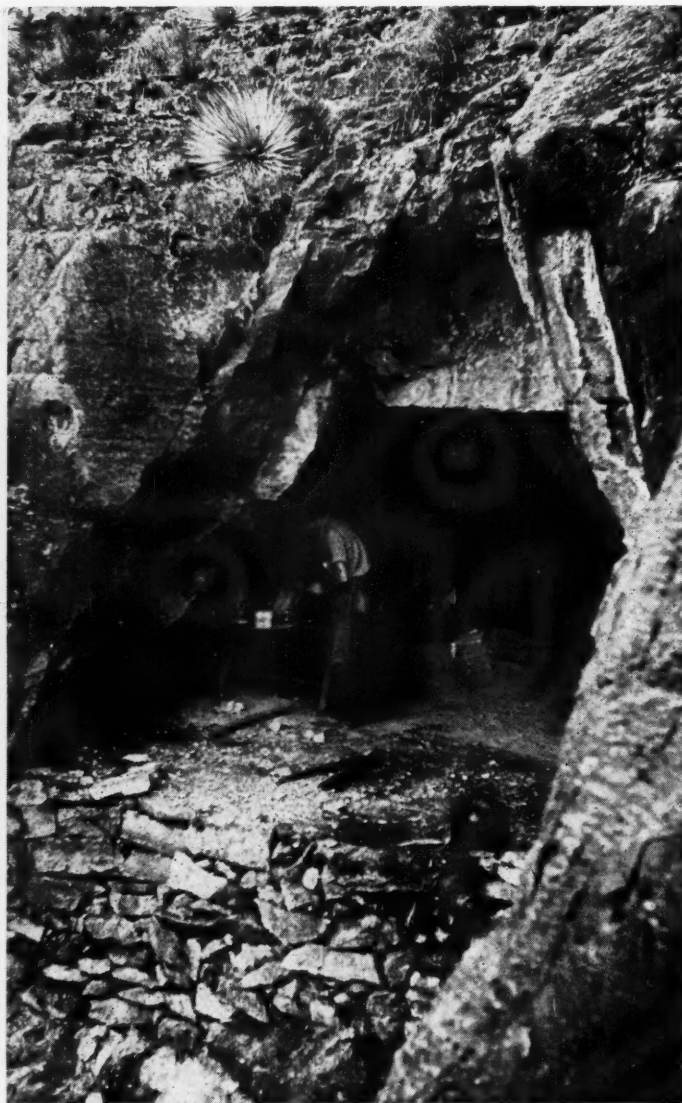
The cave extends into the cliff 140 feet and then branches. It is dry—so dry that when we went in we raised such a fog of dust the light from the entrance was almost shut out by the pungent haze of powdered material from the meals of long-dead sloths.

This was what we had been sent out to look for and there was plenty of it. In some places the dung layer was six feet thick





The arrow points to the entrance of Rampart Cave, in the cliffs above Lake Mead. At the time this scientific expedition was made, the cave was three miles from the Colorado river. Today the waters of Lake Mead have backed up within a mile of the cliff wall where the cave is located.



Entrance to Rampart Cave. The stone retaining wall was built by the CCC boys soon after the cave was discovered. More recently the park service has erected an iron gate to protect the cave from souvenir hunters until excavations have been completed.

and reached to within four feet of the ceiling. It was packed hard. Many skeletons and mummified carcasses of the extinct sloth already had been recovered from the layers, but much of it remained undisturbed. Individual specimens of the dung look like something from a stable but about five times as big. The stuff appeared so fresh it might have dated from the time of Grover Cleveland rather than a possible 20,000 years ago. On all sides were evidences this place once had been a wild animal den. Tufts of hair had been caught in cracks in the wall. At one place a shoulder of rock was polished as smooth as a piano—evidently a scratching post for shaggy hides.

The extinct giant ground-sloth *Nothotherium shastense* (the clumsy beast from Shasta) was about eight feet long from the tip of its nose to the end of its tail and

stood four feet high. Low slung and squatty, it was covered with long coarse hair about the same color as that of a collic and had powerful forelegs armed with eight-inch claws. Its head was small, all out of proportion for the rest of the beast. Its lower jaw looked like a drain-spout. It's supposed that it came out only at night to graze—digging up and devouring Joshua trees, lock, stock and barrel.

His running gear was definitely defective. Since he had to walk on his knuckles his range was limited. His living cousins all inhabit trees and never learn to walk. Probably he was supposed to do the same, got sidetracked some way, and was forced to live on the ground as best he could. Because he was a strict vegetarian, and ate the roughest kind of food, his teeth were well adapted to that diet. They had no

enamel and made up for wear and tear by continuing to grow all his life.

After we had collected all the material we needed inside the cave, we sat resting at the entrance high above the river enjoying the panorama before us. We wondered why no Indians ever had lived in Rampart Cave. No archaeological remains or traces of Indians ever had been found. Perhaps there were traditions about something that lived in the cave and the aborigines shunned it.

Indians had lived in Muav Cave about a mile farther up the river. There the sloth layer was so disturbed that no idea of its original condition could be formed. Hundreds of cane arrow shafts were found just as the last Indian left them when the cave for some unknown reason was abandoned. Countless quids or "chews" of mescal (heads of the small agave or cen-

tury plant roasted in a pit) were scattered around. Three of these "chews" with the print of the Indian's teeth are now in my collection. A great many corn cobs were mixed in the dust of Muav's floor. These were so fresh that it seemed they might have been left by folks who had moved out only a month or two before. These cobs were about as big as my first finger and little over two inches long. They had about 12 rows to the ear and averaged 106 grains each.

Indians had also lived in another sloth cavern—Gypsum Cave, which is about 18 miles east from Las Vegas, Nevada. There were many weird ideas about that cave. It was reported to be full of dried seaweed. Some people said Apaches had used it for a stable. But M. R. Harrington of the Southwest Museum explored it in 1925 and found quantities of remains of both sloths and Indians. They evidently had lived contemporaneously and it is believed that the sloth had been hunted. Bones were found, showing scratches evidently made by a flint knife. This doesn't mean that the sloths and Indians lived in the cave together. The sloths they hunted probably lived in other caves now covered by the talus slope and yet to be excavated. Some centuries it was inhabited by the sloths and after they moved out the Indians lived there for other centuries. Harrington found that the very bottom layer showed the remains of early camp fires.

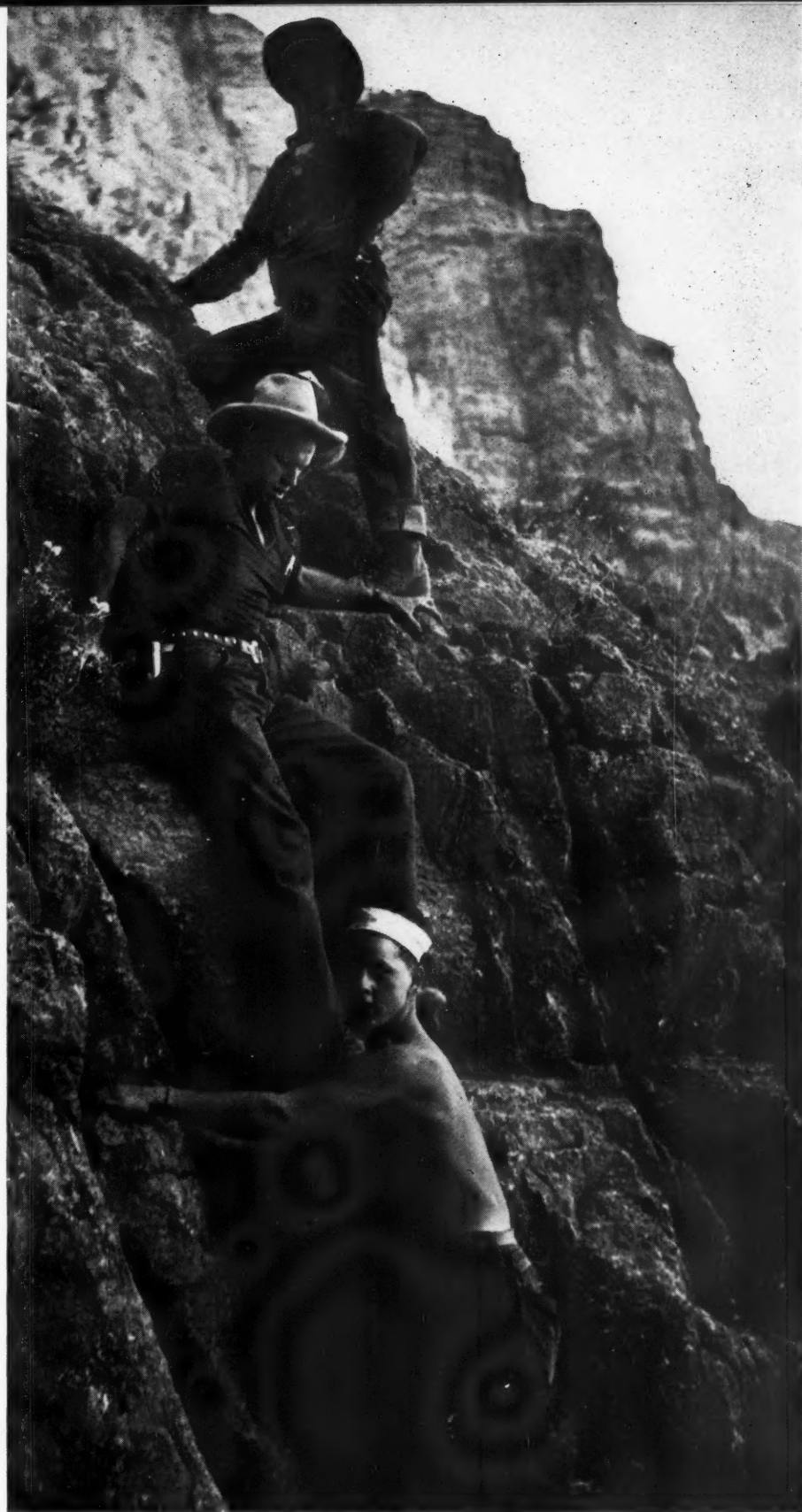
Why then, no Indians at Rampart Cave? It couldn't have been because it was hard to get to, the sloths had made it and few clumsier animals ever existed. Besides, the river was probably nearer the cave then, since a lot of cutting can be done by a river in 20,000 years.

Still wondering why no Indians had ever lived in this big and safe cave, we began collecting specimens of all the plants growing near the cave and along the river. We had to have these to compare with plant remains we might find in the dung.

Back at the laboratory at Pomona college, after an exciting and successful expedition, and a glimpse into the past, we began to unravel the story the plant remains would tell under the microscope.

Identification of botanical species was not easy. The material was centuries old, but the minute features of the fragments from the original plants were perfectly preserved. Much work was required to bring these back so as to be recognizable under the microscope. After the pieces were picked out of the dung balls under the low powered glass, they had to be soaked in distilled water and washed and dehydrated in alcohol before they finally could be stained with analine dyes to bring out their finer points so they could be compared with slides made from the fresh plants we had collected.

Microscopical identification of an unknown material is not the hopelessly haphazard problem it might appear to be to a



Climbing the vertical cliffs to Rampart Cave. Willis Evans at top, Dick Nimmons in center and CCC boy below.

person not used to working with the microscope. It's a trick, something like the guessing game in which you eliminate by asking "it is animal, vegetable or mineral?" We were interested only in vegetable material, so everything else was excluded. Our next step was to identify the

part of the plant from which the fragment came. Was it epidermis, hair, pollen, woody tissue, seed or—what? It was a question of hitting a bullseye that got bigger and bigger with each elimination. If the fragment showed the presence of hair, then there was no use in looking for any-

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In the shade of a yucca, Laudermilk (left) and Munz examine a specimen of the sloth dung found in Rampart Cave.

thing like it in type material which was from smooth or hairless plants. While much of this work requires considerable knowledge of plant anatomy, it is like any other branch of scientific investigation—50 percent ordinary horse sense.

After much looking and comparing we discovered that the sloths at Rampart Cave had lived mostly on the following bill-of-fare: maidenhair fern, desert tea, triple-awn-grass, arrow cane, nolina, desert holly, senna, desert hollyhock, beaver-tail cactus, ground cherry, desert almond, ash and poplar. We found all these plants growing around the cave. The obvious conclusion was that the climate has changed very little since the time when the sloth made his home there. Probably the river has had something to do with that.

Dr. Munz and I previously had worked out the same problem at Gypsum Cave,

so it might be interesting to compare the two sloth dung floras at this place. At Gypsum Cave the sloth's diet was quite like that at Rampart except for the addition of a great deal of yucca and Joshua tree fragments and the absence of maidenhair fern. We learned at Gypsum Cave that the sloth would now have to live in the Clark mountains, in California, 42 miles away in order to get his customary diet. In fact, nothing much edible even for a sloth now grows around the cave. This shows that there has been a marked change in climate in the Gypsum Cave region.

Why the sloths left the banks of the Colorado is a question that paleontologists are still asking. There is certainly plenty of forage in the locality today. It is possible they grazed themselves out, and harder and harder times caused a steady

decrease in the sloth population until there were no more beasts left to carry on the tribe. This is entirely speculation.

Is the sloth extinct? In the canyon walls there are many enormous and still unexplored caves which open out upon extensive shelves, vertical hanging gardens watered by springs that wet the face of the cliff for hundreds of feet down. In some such high shelf or inaccessible cave a few stragglers may still linger on to connect the present with the past.

The idea is not so fantastic as it sounds. In 1899, the famous explorer Nordjenskiolk ransacked a sloth cave in Patagonia. The cave was practically full of surprisingly fresh remains of both sloths and Indians mixed up in a way that led some authorities to believe the animal had been more or less domesticated. It is even reported by one authority, Marcellin Boule, that hunters who ranged the Pampas have seen and tracked the monster in its nocturnal wanderings. This authority adds, "The monster may be still alive."



Five-year-old guayule plants in blossom.

Rubber Plant of the Desert

It is not a striking plant in appearance, but Nature has endowed it with tiny granules of a substance that plays an important role in the life of civilized man—and so the lowly Guayule of the desert is very much in the headlines these days. Here is the story of the shrub in its native Chihuahua desert, and some sidelights bearing on its importance to the rubber problem that confronts America.

By HOWARD KEGLEY

MILES away you can see its silvery foliage shimmering in the desert sunlight on the high plateaus of Chihuahua and Durango in northern Mexico. They will tell you it is that new plant, guayule, (pronounced wy-you-lee) from which they expect to obtain enough rubber to keep the United States and Mexico rolling through the war.

Like many other things, this desert plant which promises to play an important part in our economic life during the next five years, is not a recent discovery. It was identified by Dr. J. M. Bigelow, near Escondido Creek, Texas, in 1852, ninety years ago.

Americans probably have learned more about it in the last three years than the

whole world learned in the other 87 years. It was catalogued as *Parthenium argentatum*, a member of the composite family, and a poor relation of the chrysanthemum and sunflower.

They were harvesting guayule north of Torreon when I visited that region during July. I had an opportunity to study this amazing little producer of latex in the region where it first received encouragement as an economic factor.

Far out in the back country I went from one point to another with a specialist who prefers to remain anonymous. We called him "Doc." He is a walking encyclopedia concerning guayule.

Experts, Doc told me, can spot guayule shrubs, growing wild, from the windows

of passenger coaches on the Nacionales de Mexico Railway, but most people need to be fairly close to it to distinguish it from ordinary sagebrush.

The chief way in which it differs from sagebrush is that its foliage is silvery. It looks a little like a clump of Dusty Miller, but when you get close to it you can see that it is neither that nor sagebrush, although, like the latter, when fully matured, the bush stands 30 to 40 inches high. It has a remote resemblance to Desert Holly.

"There they come with a jag of guayule," Doc remarked, pointing a farm-worn finger toward the western sky. We saw a string of donkeys, loaded to the gun-
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ing like pack animals laden with wood. Presently they approached and passed, each with head hung low, and back bent under its precious burden. Neatly stacked on the packsaddle of each donkey was over 200 pounds of guayule. Behind each string of donkeys was a barefooted and begrimed peon, carrying a cudgel. The cudgel is just a habit for he is never within striking distance of his pack animals from the time they leave the high plateaus until they reach the depot for shipment to the rubber factory in Torreón.

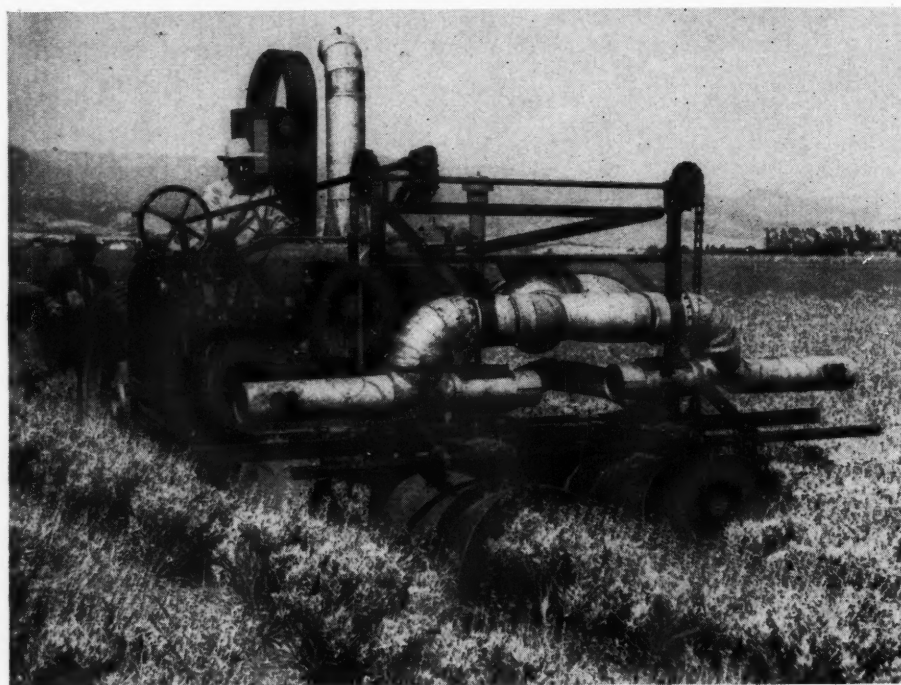
They harvest the wild guayule shrub in the Durango district when the market price of rubber is as much as 15 cents per pound, and now it is worth 20 or more. We rode to the foothill mesas where the peons are yanking up the mature shrubs by root, and chopping down the seven-year-old plants by wielding the vicious blade of a heavy machete.

Skillful devils with the machete, those peons, and in their manner of bundling the shrub for shipment. They chop it into stems and branches, and pile them in neatly arranged packs bound with twine made from yucca or agave fiber. When the bundles are ready to tie upon the back of the animals they look very much like bundles of light brush which might be used to keep the home fires burning down in the jackals and the 'dobes which flank the river flowing through yonder valley. But this is not firewood. It is tire wood.

We watched the guayule harvesters, cutting, piling and bundling their rubbery wood. We watched the pack trains move down the long foothill slopes and off across snake-infested stretches of desert to the railroad siding, where with the aid of a field glass we could see great stacks of rubber plant piled for shipment. The temperature was around 115 degrees. As the heat waves danced we could look at four guayule bushes and almost see four automobile tires, one spinning on each bush. It was that mirage-like!

"Some think guayule originated in Mexico," said Doc. "All we know is that it was found in Texas 90 years ago. It may have been here 1,000 years. It grows wild profusely through northern Mexico and into the Big Bend country of Texas. Experience has taught us that it will grow in many parts of the United States—even Georgia and Florida, but that where it gets an abundance of moisture, it accumulates little or no rubber."

He told me how guayule produces rubber. Turned loose by nature to work out its own salvation in a hot desert country, this plant evolved a method of insulating itself against loss of moisture during the long hot summers, by depositing granules of rubber between its bark and the fiber of the plant and roots. Apparently it stores water when rains are abundant, and has



Above—Preparing commercial guayule fields for planting at Salinas. This machine plows and stirs the soil to a depth of eight inches.

Below—Gathering guayule seed with a vacuum machine in fields at Salinas. Hand-gathering proved to be more efficient.

means for preventing its escape when evaporation is high.

There are some curious cultural habits worth knowing. Improvement of seed by companies interested in its cultivation, has brought the plant to the point where it will produce 17 percent of its weight in rubber about the seventh year. But if given too much moisture its production of rubber will decrease. Under natural conditions in northern Mexico its rubber content averages 10 percent. By irrigation the foliage may be increased eight fold, but

the rubber content may be reduced to practically nothing.

The rubber is captured by grinding the whole shrub, roots and all, under water and milling out the fiber. The rubber carries a small quantity of resin. It formerly cost as much as eight cents a pound to remove this. More recently discovered solvents will now remove it for one cent. The resin is sought by manufacturers of plastics, so this by-product may yield a profit.

The revolution in Mexico during 1912 drove American guayule rubber experi-

menters out of that country. They gathered what seed they could and came to California, where they planted experimental plots at Valley Center in San Diego county, Irvine ranch at Santa Ana, Herbert Hoover's ranch at Bakersfield, at Salinas, Red Bluff and one or two other points.

Some of these plantings worked out satisfactorily. The Salinas experiment produced 4,500,000 pounds of rubber before the rubber price collapsed a few years ago. Farmers in several instances said they could make more money from guayule than from barley on the same land. Most of the farmers who went into it said that guayule added fertility to the soil and that after cropping it for a while they could get an extra five bags of beans to the acre.

Planters have learned that guayule required a long hot summer, and prefers locations where it gets hot days and cool nights. This seems to be essential to the formation of rubber granules under the bark of the shrub. It needs from 12 to 15 inches of rainfall yearly, or a like amount of irrigation at the proper time of year.

Government men are now scattered throughout the southwest supervising plantings of guayule, or studying its culture. They say it apparently makes the maximum amount of rubber when planted on fan-shaped alluvial deposits in the foothills of the desert, with moderate elevation, and the minimum of rubber when cultivated near sea level. Climatic condition has much to do with success of the plant as a producer of rubber. It even needs sharp change of hot and cold as well as wet and dry, but the experimenters have learned that it doesn't thrive in temperatures below 15 degrees.

Last March, in an effort to procure enough rubber to keep the country rolling until tree rubber again is available, congress appropriated funds to pay up to \$2,000,000 for the entire layout of the Intercontinental Rubber company, at Salinas and plant 75,000 acres of young seedlings. The forest service is doing this work under direction of the Guayule Rubber Emergency project. It has planted 100 experimental plots of one acre each in Southern California, Arizona, New Mexico, Utah and Texas. Mexico, some reports indicate, may now be yielding 40,000 tons of rubber annually.

People who are interested in this plant have tried to obtain seed but there is none for sale. The government plans to use all that is available. The foremost authorities recommend a five-year growing cycle, at the end of which the whole plant would be dug up and processed. It is believed the plant stores its maximum amount of rubber by the end of the seventh year, after which it will retain, but not increase its accumulation.

The United States will this year have at least 600 acres of commercial guayule to

harvest, for a probable yield of 1,300,000 pounds of rubber. By the fall of 1943 there will be 871 acres to harvest. Fifty thousand acres, for which the seedlings are now being grown, should provide 20,000,000 pounds of rubber by the fall of 1944. It can be cut in two years if necessary.

This won't go far, if one considers that

by that time 10,000,000 sets of tires will need renewing or retreading, but added to the synthetic rubber which the country will be manufacturing by that time, it will go a long way toward keeping Americans on wheels. So guayule, the adopted child in California's botanical nursery, may ultimately play a leading role in saving the entire country from automobile paralysis.

The metal now goes into airplanes and guns

ANNOUNCEMENT To Desert Magazine Subscribers

The Desert Magazine office has been advised that for the duration of the war no more metal parts will be available for the manufacture of the binders in which a majority of our subscribers are preserving their Desert files. The metal is needed for war purposes.

We now have only enough of these binders to fill the orders on hand. No more can be supplied for the duration.

But we want to assure you that when the emergency has passed and the metal again is available, there will be binders for all your magazines, including those that have accumulated during the war period.


We urge those thousands of subscribers who are keeping permanent files to preserve their copies as usual for the day when the gold-embossed covers can be sent to you.

As you know, the cost of a year's subscription with binder is \$3.00. The cost of these binders to us is 85 cents and we sell them for \$1.00 when the order is not enclosed in the same envelope with a subscription.

If you wish, we will continue accepting orders for binders with subscriptions at the \$3.00 rate or single orders at the \$1.00 rate—with the understanding that delivery of the binder will not be made until metal again is available. These back orders will be carefully filed, and will be the first orders filled when the manufacture of metals is resumed.

This is just one of the little inconveniences we all are accepting in these days of all-out war effort and we know the big Desert family will accept it in good grace. Many thanks for your co-operation.

Cordially,



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GAZINE

NOVEMBER, 1942

Mines and Mining . .

Los Angeles, California . . .

Tin properties in Riverside county near Elsinore, California, inoperative since 1929, will be reopened, war production board officials have announced. Dodge Construction company of Fallon, Nevada, will begin work shortly on a 100-ton pilot plant, this to be expanded later to 10,000 ton daily capacity. Captain Charles Craze, English tin expert, said: "It is clear from all evidence adduced that the property is a very valuable one, and aside from the gold, copper and other mineral deposits, there is no doubt in my mind as to the extent and richness of the tin ore deposits." This mine, opened in 1892, was closed when tin from England became plentiful.

Reno, Nevada . . .

Nevada has the largest and purest iron deposit west of the "Rockies" declares Walter K. Yorston, Reno mining engineer, who is developing the property. He is executive vice-president and chief engineer of the Lewisyorston Iron and Steel corporation which plans to establish furnace capacity to produce about 150 tons pig iron per 24 hours for immediate shipment to Pacific coastal areas. Metallurgical coke from Utah will be used for reduction. Government assays showed a ferrous content of 67.9 percent. Recent investigation disclosed 100,000,000 tons in the deposit. Yorston said, "Some tests had reflected the ore to be so pure that it could be directly introduced into an open hearth furnace without primary heating in converters to remove impurities. It contains no phosphorous or sulphur."

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Safford, Arizona . . .

The Lone Star copper mine located 10 miles northeast of Safford and north of the Gila river, financed by a federal small-mine operators loan will be placed in production soon. With the exception of several small shipments during World War I, the Lone Star has been inoperative since 1907. From 1888 to 1907 the property operated as Lone Star Consolidated Copper company, but despite the discovery of high grade ore the company failed. William Kucher, former superintendent of the Hardy mine, near Duncan, is in charge. Members of the company are J. D. Merrill, Paul Merrill, and Albert Spaulding, Safford; Jack Folks, San Bernardino, California, and Eugene Creech, San Diego, California.

Lovelock, Nevada . . .

Harold's Club Mining department has opened an eight-foot quicksilver vein running 55 percent mercury in the Red Bird mine of the Antelope Springs district. The discovery was made in virgin ground 30 feet from old workings. Drillings for another six feet into the footwall show that ore extends much farther across. A tunnel is being driven to tap the orebody 70 feet below the tunnel through which it is now reached. Ore is so rich, it is said, that it is necessary to grade it down to prevent salivation of the men at retorts. Authorities in the area describe the cinnabar strike as one of the most important in the state since Nevada quicksilver mine days. R. R. Wiedeman is general superintendent and Bob Baker is field engineer for the company.

Reno, Nevada . . .

Nevada produced magnesium will play an important part in the building of American airplanes, said Major C. P. J. Ball, vice-president of Basic Magnesium, Inc., of Las Vegas. The official addressed the Sacramento section of the American Chemical society meeting on the University of Nevada campus. He pointed out that the Germans use magnesium alloys extensively in manufacturing planes and that of all craft brought down over the British isles, not one part made of magnesium failed except through the force of the crash or when hit by bullets. He also called attention to two courses now being given at the university which will train engineers in fundamentals of magnesium and light metal industries. Previously Basic Magnesium sent its technicians to England for training. Major Ball is chairman of Magnesium Elektron, Ltd., of Manchester, England.

Lovelock, Nevada . . .

Griff Mines, Inc., during two years of ownership of the old Superior mine a few miles south of Scossa has exposed three million dollars in zinc ore. A car of ore recently shipped, showed a return of 38 percent zinc. On the basis of samples taken at the Antelope mine near the Superior and on the same vein by Herbert M. Witt, San Francisco engineer, an RFC loan has been recommended. Both mines were opened in 1912 and large shipments were made to smelters for silver contents. However, they were closed in 1920, when silver values fell.

Milford, Utah . . .

Tungsten output at the Prosper Mining company's milling plant near here will be more than doubled when installation of flotation equipment now underway is completed. This addition will permit operators to handle 200 tons daily, whereas the mill was originally designed to produce 125 tons daily. The mill is under lease to the C. H. Segerstrom interests of Sonora, Calif., who are installing a flotation battery, conditioner cells and auxiliary machinery. Ores for the increased capacity will be drawn from a stockpile at the old Hickory mine also leased by Segerstrom.

Las Vegas, Nevada . . .

The Silver Butte mine and adjacent claims in the Paradise district nine miles north of Paradise Valley has attracted mining interests because of a preponderance in deeper-level ore of sphalerite, the sulphide and most important ore of zinc. The vein can be traced for long stretches through quartz fissures in slate, cut by rhyolite dikes and marked by bold outcrops. Discovered in 1868, the mines were worked actively from 1879 to 1891, with gross production of \$3,400,000, principally in silver.

Ely, Nevada . . .

White Pine county is Nevada's leading mining area, state tax rolls have revealed. Net proceeds for White Pine mines were fixed at \$6,132,814 for 1942.

Moab, Utah . . .

Great Lakes Carbon corporation, New York City, will test salt stratas underlying Moab valley for magnesium content it has been announced. A rotary rig is being erected at the well site by the Mack Drilling company of Wichita Falls, Texas. Explorations will be carried on until all salt formations are penetrated to test magnesium, potash and other mineral contents. That salt beds underlying the valley contain magnesium was disclosed in an analysis of salt taken during an oil drilling test made about 20 years ago. Extent of the magnesium, however, is not known.

Carson City, Nevada . . .

Senator Pat McCarran, leader of the senate silver bloc, has disclosed plans to introduce legislation increasing the legal silver purchase price from 71.1 cents to \$1.29 a fine ounce. The senator believes this would encourage the output of copper, lead and zinc—three strategic metals often found as a silver by-product. Members of the bloc have also agreed to unanimously oppose a bill to make some "free silver" held by the treasury available to jewelry and plate industries to tide them over until they can convert to war work.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of The Desert Magazine published monthly at El Centro, California, for October, 1942.

STATE OF CALIFORNIA } ss.
COUNTY OF IMPERIAL }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Randall Henderson, who, having been duly sworn according to law, deposes and says that he is the editor of the Desert Magazine and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Desert Publishing Co., El Centro, California.

Editor, Randall Henderson, El Centro, California.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Bess Stacy, Calexico, California; Edna B. Clements, Long Beach, California; Lucile Harris, El Centro, California; Randall Henderson, El Centro, California.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

Perry Burke, San Diego, California.
Bank of America, El Centro, California.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is (This information is required from daily publications only.)

RANDALL HENDERSON

(SEAL)

Sworn to and subscribed before me this 23 day of September, 1942.

EDNA M. MORRISON
(My commission expires
March 10, 1946.)

Contest Winners...

Last July and August the Desert Magazine announced a writer's contest designed to bring out the personal experiences of our readers while residing or traveling in the desert country.

The contest closed September 1, but it has taken the judges nearly a month to read and reread the many scores of manuscripts received. The judging is now completed and William Caruthers of Ontario, California, has been awarded the \$25 prize for the best desert story. Eight other winners whose stories were accepted are announced herewith and have been mailed their checks of \$10 each.

From the standpoint of the Desert Magazine staff the contest has been a huge success, despite the many extra hours spent in reading and discussing the relative merits of the stories sent in.

Some of the manuscripts were disqualified because they were not just the type of material specified in the contest announcement. But they were all interesting stories and the editorial staff is appreciative of the interest and effort of all those who took part.

The winning stories will appear in regular issues of Desert during the coming year. Non-winning manuscripts have been returned to those writers who enclosed postage for that purpose. The others are available for return if desired.

Following is the list of winners:

Weather

FROM PHOENIX BUREAU

Temperatures—	Degrees
Mean for September	85.2
Normal for September	82.7
High on Sept. 3	105.0
Low on Sept. 12	62.0
Rain—	Inches
Total for September	0.21
Normal for September	0.75

Weather—	
Days clear	25
Days partly cloudy	5
Days cloudy	0
Percentage of possible sunshine	91

E. L. FELTON, Meteorologist

FROM YUMA BUREAU

Temperatures—	Degrees
Mean for September	84.8
Normal for September	83.7
High on Sept. 15	111.0
Low on Sept. 12	60.0
Rain—	Inches
Total for September	0.00
73-year average for September	0.43

Weather—	
Days clear	30
Days partly cloudy	0
Days cloudy	0

Sunshine, 100 percent, (371 hours of sunshine out of a possible 371 hours). First September on record, since 1908, with 100 percent.

Release from Lake Mead averaged around 16,500 second feet. Storage during the month decreased about 780,000 acre feet.

JAMES H. GORDON, Meteorologist

First prize to—

William Caruthers, Ontario, California.
Title of the story "I Go Desert."

Other prize winning manuscripts were from—

Helen Pratt, Victorville, California.
Title, "A Childhood Memory of New Mexico."

Tom Terriss, New York City. Title, "The Canyon of Death."

David Champion, West Los Angeles, California. Title, "Black Gold."

Jerry Lauder milk, Claremont, California. Title, "Plumb Victorious."

W. LeRoy Bell, Orange, California. Title, "I Was a Stranger . . ."

Johns Harrington, Montebello, California. Title, "Archaeology Is Like That."

Lynda R. Woods, San Jose, California. Title, "Our Desert Adventure."

William Caruthers, Ontario, California. Title, "Out With a Punk."

The Desert TRADING POST

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—actually about 1 1/3 cents per thousand readers.

OPPORTUNITY

We will provide fine desert home for middle-aged couple willing to serve as caretakers of a completely equipped desert resort until June 1, 1943. Yard space to raise chickens, grow small vegetable garden, etc. Building supplied with electricity and butane gas. Write Desert Lodge, Borrego, California.

MISCELLANEOUS

12 BEAUTIFUL perfect prehistoric Indian Arrowheads, postpaid for a dollar bill. Catalog listing thousands of other relics free. Caddo Trading Post, Glenwood, Arkansas.

200 personal post cards printed with name and address. Makes an excellent gift. \$1.03. Glenn's Press, 3405 University Ave., Los Angeles, Calif.

Indian relic and curio collection consisting of 100 selected specimens all labeled, a \$50 value, postpaid for \$1. P. Smith, Sr., archaeologist, 2003 59th St., Sacramento, Calif.

500 small gummed stickers printed with your name and address—52c. Hundreds of uses. Glenn's Press, 3405 University Ave., Los Angeles, Calif.

LIVESTOCK

KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

Karakul Sheep are desert, domesticated, FUR bearing animals. 86 percent repeat orders. There is a reason. Write for Bulletin No. 12. James Yoakam, Leading Breeder, 1128 No. Hill Ave., Pasadena, California.

REAL ESTATE

For Imperial Valley Farms —

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — CALIFORNIA

Writers of the Desert . . .

LILLIAN BOS ROSS wrote the story of the Elephant Trees on the Southern California desert for the first issue of Desert Magazine, in November, 1937. That was Mrs. Ross' first sale of her literary work to a magazine. Later she moved from the Borrego desert to the California coast at Big Sur. And now William Morrow and Company of New York has published her first novel, *The Stranger*.

It is a vigorous salty book—the romance of a mountaineer and his mail-order bride—the story of two strong people who overcame terrific obstacles to adjust their lives to a common ground.

The thing that interests Desert Magazine's staff is Mrs. Ross' promise that if the royalties are sufficient, she will return to the desert to resume her contributions to her first market, the DM.

JOHN HILTON has spent much of his time the last few weeks out in a remote corner of the Southern California desert mining gem crystals for Uncle Sam.

Latest word from the MARSHAL SOUTHS is that they are somewhere in Utah, still following the trail that will lead to the desert Shangri-la of their dreams. The trip has been good for the three South youngsters. They are learning about a world that was entirely foreign to them during their days at remote Yaquitepec. The trip has been one glorious picnic for them.

GEORGE M. BRADT whose stories and pictures of desert birdlife have appeared in Desert, is now a Signal Corps photographer, with the rating of sergeant, at El Paso, Texas. "Have been in the army 18 months," writes George. "My wife is with me and we are making the most of our beloved desert before I am sent off to the combat zone." Previous to his induction in the army Bradt was teaching in Tucson where he was graduated from the University of Arizona in 1937. His chief hobby is falconry and it was through this channel that he extended his interest to photography and all desert birds.

PAUL WILHELM of Thousand Palms oasis, who has contributed both prose and poetry to Desert Magazine, is preparing to leave his camp among the palms to carry a gun for Uncle Sam. "But I'll come back" is the pledge he has given his desert friends.

ANSWERS TO DESERT QUIZ

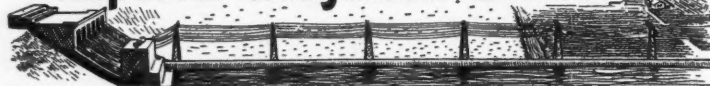
Questions on page 10.

- 1—Address a few uncomplimentary remarks to the insect and forget about it.
- 2—Laguna dam.
- 3—San Jacinto mountains.
- 4—Navajo blankets.
- 5—Arizona.
- 6—Ocotillo.
- 7—Creosote bush.
- 8—Antelope.
- 9—Nevada.
- 10—Lead.
- 11—Exploration of the Lower Colorado river.
- 12—A prehistoric tribe of Indians.
- 13—White mountains of Arizona.
- 14—Twigs and sticks.
- 15—Hualpai.
- 16—Tombstone.
- 17—Bird.
- 18—Red.
- 19—Camino del Diablo.
- 20—Roast it in a pit.

Production for Defense . . .

- Until far-sighted pioneers tapped the great resources of the Colorado river, the Imperial basin of Southern California was a region shunned and feared by all men.
- But now, because of the faith of American farmers and the skill of engineers, more than 500,000 acres of this desert area have bloomed producing tons of food for the defense of America.
- Millions of dollars worth of alfalfa, vegetables, grain, livestock, flax, rice, beets and dairy products are now being produced here annually—bringing wealth to thousands of farmers and stock-raisers.
- The same water that is irrigating the fields is also providing low-cost electricity to the homes and shops and factories and federally sponsored defense projects of the 60,000 people who dwell in Imperial Valley.
- All of this has come about because the Imperial Irrigation District is a cooperatively owned and operated institution which operates entirely for the benefit of the consumers. In Imperial Valley you can have a "home in the West" and enjoy the security and independence of an agricultural community plus all the comforts brought by low-cost electricity.

Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal

Where

Dear Mr.

It is emotion to the p you stil phy of t one of p courage one. W you pain peace th

It see lot of th for me the dese ened tha in "It V find an ment to probably it's local berg, A once wi a field t Apr. '42

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Dea rection mistak so gra

Pioneer

Dear Mr.

Your carried a Havasup Williams also bein terested Bill Bass known a Canyon

My fa pais and stories of cially the the ladd trying to He fir 1886—I this writ

NOV

LETTERS...

Where Hadji Ali Was Buried...

Corona del Mar, California

Dear Randall:

It is a relief to know that despite the emotions and feelings this war is giving to the participants—and we are all in it—you still maintain the spirit and philosophy of the desert. And that philosophy is one of peace and understanding with the courage to face whatever hardships befall one. We can use some of that perspective you paint after this war is over to win the peace that will outlaw war forever.

It seems this war is interfering with a lot of things, among the most important for me is exploring and prospecting on the desert. In your October issue you awakened that old urge to get back to the desert in "It Was Fun to Explore." However, I find an error in your location of the monument to Hadji Ali (Hi Jolly). There will probably be others who will tell you that it's located at Quartzsite instead of Ehrenberg, Arizona. I have been there twice, once with John Hilton when we went on a field trip to find quartz crystals (D. M. Apr. '42).

Again I say, the war cannot end too soon for us, for we are anxious to get back to the desert. Right now it's building boats for me, but I'll be back to the painted canyons, the ocotillo and the geode fields before long, I hope.

Meanwhile, you keep "shooting out" the Desert Magazine. It's like a shot in the arm against this epidemic of war against humanity.

HOWARD M. BARNES

Dear Barney—Thanks for the correction. It's almost a pleasure to make mistakes when we're told about 'em so gracefully.—R.H.

Pioneer Among the Supai...

Boulder City, Nevada

Dear Mr. Henderson:

Your Desert Magazine for September carried a letter entitled "More About the Havasupais" which was written by Ed F. Williams of Blythe, California. My name, also being "Bill Bass" I am especially interested in this letter because I believe the Bill Bass referred to was my father, better known as Captain W. W. Bass, Grand Canyon guide and poet.

My father was a real friend of the Supais and I often listened to his interesting stories of trips into Havasu canyon, especially the one when he nearly fell from the ladder where Mooney met his death trying to descend the falls by rope.

He first visited their village in 1885 or 1886—I am not sure of the exact date at this writing. But I do have a complete

story of this first trip at home in Wickenburg. I have heard him tell of the epidemic and how they killed many of their tribe by sweatbaths, and how he took them medicine and tried to influence them not to use it in such cases. They treated the measles the same way and lost one-third of their number many years ago, and last year many deaths were caused by this same treatment.

My father took the Supais seed, food, and clothing, and taught them many things about farming. He spoke their language and sat in on council meetings. They always came to him when in trouble and asked that he "make paper talk" to the Great White Father in Washington. Chief Tom gave him his finest horse "Silver" as a token of friendship and after Tom's death his relatives tried to get the horse back again to strangle and send to the happy hunting grounds so that Tom might have him again.

I could write for hours on this subject, for as a child I lived and played with the Supais, but as time and space is short, I will close by saying that I am happy to have read this letter by Ed Williams and would like to know for sure if the "Bill Bass" referred to was my father.

WILLIAM G. BASS

Bill Bass: You have no doubt received Ed Williams' letter by now. He knew your father well. They were both cowmen on the northern Arizona plateau many years ago.—R.H.

Thanks to El Centro Canteen...

Fresno, California

Desert Magazine:

Reading in the Pacific Rural Press that the Desert Magazine published in El Centro was one of the most beautiful and most interesting magazines in the country, made me want a copy.

I have a soldier boy at Camp Seeley in the Desert Test Command. He comes home occasionally and tells us about the beauty of the desert. He also speaks very highly of the Soldiers' Canteen in El Centro in the way of comfort, entertainment and refreshments for the soldiers. He is surely making use of it, as he has been working hard in the Test Command, eating and sleeping out of the usual routine. So whenever he is in El Centro he goes to the Canteen to rest. Please give my thanks to the Canteen for what they are doing for the comfort of the soldier boys, including my soldier boy.

MRS. J. D. HAMMOND

Alive and Going Strong...

Los Angeles, California

Dear Sir:

I missed the August issue of Desert Magazine due to a misinformed clerk at the drug store where I have been buying your magazine in the past. She told me you had gone out of business and therefore no more issues of one of the finest magazines in the Southwest. For gosh sakes, don't ever do that. My wife and I are both "desert bugs" and wait anxiously from one issue to the next. The way I found out you were still in business was by seeing your advertisement in a journal a "bronco bustin'" friend of mine gets called "Hoofs and Horns."

I was certainly glad to see the September issue come out and I hope they will continue to come out for many years more. Is it possible for me to still get the August issue, as I am saving them? I thought it was funny that you should decide to go out of business all of a sudden without letting your readers know. I'll never take anyone else's word for that again.

WALTER O. THURBER

Walter: That was a mistake. Desert Magazine like the other things that grow on the desert is healthy and vigorous and tough and gives every promise of outliving the Saguaro and Ironwoods.—R.H.

Thanks for the Compliment...

Long Beach, California

Dear Sir:

Bouquets have been passed out for various writers and sections in the Desert, but somehow they have all missed the high spot of the whole magazine. I do glance through at the pictures, but always turn to the back and read "Twixt You and Me" first. It is the philosophy of the editor which has made the Desert possible and "Twixt You and Me" always has some choice morsel.

I am glad to see "trip" articles on Arizona and Utah locations because it doesn't hurt so much not being able to take them—but one can dream without burning rubber or gasoline.

I prize my every issue of the Desert and wish you the best of success.

Am enclosing check for three years' subscription and binders.

CLARA V. CROSS

Keep 'em Writing...

Payson, Utah

Gentlemen:

Welcome the articles of Charles Kelly in D.M. He sure knows his Utah, and should have many more descriptions for us.

With him, and Marshal South, well, you will have me on the list for life. Glad Marshal has his burros. No rubber shortage will bother them now.

L. D. PFOUTS

in other words

by JOHN CLINTON



I've never been overly impressed with magic. Magic usually turns out to be just something someone put over on you when you weren't looking. And as a boy I never could work those magic sets, anyway.

* * *

But my skepticism took an awful beating last weekend. I was all set to wax the Hispano-Plymouth when Chuck, my favorite Minute Man, introduced me to a box of what I swear is magic powder. It's called Lustre-Eze, and it's the darndest stuff you ever saw.

* * *

Just before that erstwhile awful moment when you screw your courage up to the point of waxing the old buggy you sprinkle Lustre-Eze over the waxed surface. And *Presto!* Instead of the back-breaking, soul-shrinking job rubbing down wax used to be, Lustre-Eze makes it easy as pie.

* * *



Look, stop at your Union Oil station and get a can of Union Auto Wax from the Minute Man. It's made of the finest imported waxes obtainable. Next, buy a bag of Lustre-Eze for 19c. Then go home and get your car ready to be waxed.

* * *

Next apply the Union Auto Wax. It actually makes no difference how you apply it, because Lustre-Eze will stop the wax from "setting" or smearing before you're finished. Then when the wax is on—sprinkle on Lustre-Eze and wipe...lightly! And believe it or not, your car will shine like a pre-dimout five-and-dime store. And you—well you'll be amazed! But—only Union Oil Minute Man stations have Lustre-Eze!

From Gila River Evacuees . . .

Rivers, Arizona

Dear Mr. Henderson:

There have been radio broadcasts that members of our Relocation Project are thieves, stealing lumber, nails, etc. Indeed it's a shame to admit that it is partly true, but it is only one side of the story and not the whole truth of the matter.

In my daily observance, I see quite a number of men carry lumber out of the vacant yard where there is a pile of waste material that could not be used in building the barracks. It is trash, only good enough to be burned.

If you could come to Gila Relocation Project at Rivers, you would find the raw modern structure in the middle of the virgin desert, red roof, cream colored wall barracks built block after block, thousands of them around the butte, giving a gay geometrical pattern under the clear blue sky.

But as you step inside you will see that there are no partitions, no ceiling, no electrical wiring, no closet, no table, no chair—only army cots lay there on the rough bare floor. How could we live without chairs, tables, closets? We cannot put everything on the floor, and especially in sand-storm days. We badly need closets to keep clothes and everything from the awful dust.

So naturally, industrious men got busy to design and make household necessities by utilizing the waste material that could be had. Some made pretty good looking stands and tables and rustic chairs and closets, more artistic than a regular cabinet maker would do. Others, not very good at carpentering, made crooked tables and chairs. If someone started to lean an elbow on them they would give way.

Mary Kumono is one of my friends. Her husband made a rustic bench. One evening Mary and I took it outside to be in the cool air, and enjoy the colorful twilight and do a bit of gossiping. I stood up to show her the Constellation of Scorpio across the Milky Way.

"Ouch!" she screamed.

She was sprawled on the ground. Then I saw that my end of the bench had gone up and her's had gone down, like a teeter-totter.

"It's my honorable husband's fault," she laughed. "He built that bench. Tomorrow I will get a more skillful carpenter."

Outwardly it seems that Japanese evacuees here smuggle waste lumber for their convenience. As a matter of fact the U. S. government loans the property for our use for the duration of the war and we understand we have to take good care of it. As tenants we simply are doing the best we can to make our stay pleasant and cooperate as best we can with the U. S. government.

Six months after the war is over the

land and all improvements, all green fields and production too, go back to the Indians, together with all our good wishes and good luck to them!

MRS. TOSHIKO IMAMURA

* * *

Just Like the WAACS . . .

Long Beach, California

My Dear Mr. Henderson:

Re. your August cover, a perfect picture of poise and contentment. A "permanent" would be inconsistent in that terrain. I note that Mrs. Burro wears her halter or bridle bias, sort of from Seattle to New Orleans just like the WAACS wear their hats. After all the real permanent is the permanent value of the Desert Magazine to us readers. Keep 'em reading.

JOHN G. SPIELMAN

* * *

Well Wishes to the Souths . . .

Santa Monica, California

Dear Mr. Henderson:

The arrival each month of Desert Magazine brings to me a new and increasing enjoyment. Naturally I have my favorite contributors, among whom are Marshal and Tanya South. In this month's issue when I read of their departure from Yaquitepec I could not help a feeling of regret for that deserted house.

I wish now to wish that inspiring and courageous little family God speed and a happy landing to a more favorable home site where Rudyard will have at least his 12 gallons of sparkling water. While it is true that heartstrings can, and do suffer at the breaking up of an established home, yet a change many times more than compensates for that parting pang. May this prove true to an unlimited degree for the Souths coupled with many choice blessings. With best wishes to you and staff.

KATHRYNE LAWYER

* * *

Moonstones and Bread Knives . . .

Los Angeles, California

Dear Mr. Henderson:

Our congratulations on one fine magazine. I refer to your Desert Magazine for October, 1942. Enclosed find check for two year subscription and one of your New Wonder sets. From now on you may count on us as among your best boosters.

We have gone all out for rock polishing. Of course you understand we are just beginners. After I polished my first moonstone I decided to try and sharpen a kitchen knife. When I got through with it, it turned out to be a first class (toothed) bread knife. So I told my darling wife before we attempt any more rocks we would both have to pass a test on grinding knives.

Again wishing you continued success with your swell magazine, may we become accepted members in your family of "rock-polishers"?

H. F. and MARIE L. DAHLMANN

THE DESERT MAGAZINE

HERE AND THERE...on the Desert

ARIZONA

Davis Dam Road . . .

KINGMAN—Utah Construction company, Davis dam contractors, expect soon to complete road work through Union pass shortening and widening the route from Louise, rail-head six miles east of Kingman. Santa Fe crews have laid several sidings at the station. Warehouses and unloading platforms there are under construction. On the Nevada side of the Colorado the company is erecting power lines from the Needles-Boulder dam transmission line. U. S. reclamation service will furnish power during construction.

Big Piñon Crop . . .

SAFFORD—While northeastern Arizona and northwestern New Mexico expect to harvest the finest piñon crop in generations, the yield in southern Arizona will be spotty, according to the Southwestern forest and range experiment station. In the southwest the crop is expected to be light although in Apache, Carson, Cibola, Coconino, Gila and Kaibab national forests are sections varying from 2,000 to 20,000 acres on which the crop is reported good. Indians of the two states will pick piñons for domestic consumption. Most of them will go to the cosmetic trade where they are pressed for a mild white oil.

Resorts Expect Good Season . . .

PHOENIX—Coast dim-outs in California and acquisition of Florida hotels by army air forces will contribute to the best winter season in many years throughout Arizona's "sun-belt," according to a consensus of hotel men. Arizona's sun country is one of the few areas left for vacationing. Strain and stress of swift-paced wartime work will make a winter change and rest more needed than ever and shortage of fuel oil in eastern states will have an effect, they point out.

San Marcos Opens . . .

CHANDLER—San Marcos hotel, noted Arizona resort center, opened October 1, earliest in its history, to help alleviate an acute shortage of housing facilities in Chandler, according to Carl Elkholtz, vice-president of the San Marcos Hotel company. Harry Comstock, owner and manager of Rockway Inn, Lake Tahoe, California, has been selected for resident manager and will take his post November 1. Mr. Comstock formerly managed the Arizona Inn at Tucson and Vista del Arroyo hotel, Pasadena. This year San Marcos officials expect to serve transient patrons at popular rates.

Canyon Train Stopped . . .

GRAND CANYON—Passenger train service over a branch Santa Fe railroad line from Williams to the north rim has ceased for the duration. The Arizona corporation commission recently granted the railroad's request to discontinue service when the company asserted that they needed equipment and train crews in main-line service and that travel to the canyon had dropped 77 per cent. Rail traffic to Grand Canyon last August was 1833, compared to 10,839 in August, 1941. Likewise automobile traffic was less than half as heavy as last June. Bus service will be continued by Santa Fe Trailways.

Bostonian Weds Papago . . .

PHOENIX—Mrs. Gweyneth Harrington, Boston, Massachusetts, field specialist in the Indian arts and crafts board of the U. S. department of interior, and Juan Xavier, son of a late Papago chieftain were married September 18. Mrs. Harrington is the daughter of Mr. and Mrs. Alexander S. Browne of Boston. Before her marriage, Mrs. Xavier was connected with several University of Arizona archaeological expeditions to West Indies, Central America and Europe. In recent years she has worked on a social-economic survey for the soil conservation service at the Papago Indian reservation. Mr. Xavier, son of Jose Xavier, is a member of the Papago tribal council. He has worked at the university and with university expeditions on the reservation.

Forester Transferred . . .

FLAGSTAFF—Roland Rotty, assistant forester of Coconino national forest left October 1 for duty at Salinas, California, with the guayule experiment station, taken over by the forestry department as a wartime emergency project. While head of the forest nursery at Flagstaff, Mr. Rotty planted 2,000,000 trees over 2,000 acres in the first large scale reforestation project attempted in the Coconino. The nursery is being closed for the duration.

Don Smith, former secretary of the Nogales chamber of commerce, has taken over duties at the Calexico, California, chamber of commerce on a part-time basis.

Fred Norton, Arizona highway department employee succeeds E. C. Corbell as acting superintendent of the department's motor vehicle division. Corbell has joined the office of defense transportation.

Arizona's cotton crop for 1942 will total 220,000 bales of 500 pounds gross weight, according to a report of the U. S. department of agriculture. This includes 161,000 bales of short staple and 59,000 bales of American-Egyptian long staple.

"San Diego" Rawson, (Desert Magazine, March, 1941), operator of the "Old Frontier" just west of Joseph City wanted to help the Red Cross, but tourist travel upon which he depends has fallen off. He offered a 4-year-old pinto pony to be sold at auction.

CALIFORNIA

Canal Work Stopped . . .

INDIO—Work on the Coachella branch of the All-American canal has been brought to halt by lack of repair parts. Only three miles of the canal remain unfinished. To continue work, company officials must obtain a priority rating.

A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) Two years subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid. GHOST TOWN NEWS, BUENA PARK, CALIF.



The answer to the war workers' housing problem

Westcraft

and

Westwood

TRAILER COACHES

—Modern Defense Homes—
See Them Today

GEORGE T. HALL

So. Calif. Westcraft Distributor
5614 W. Washington Blvd.
Los Angeles, California

700 Acres for Guayule . . .

INDIO—Government rubber committee officials have leased 400 acres of the Bell ranch and 300 acres of the Whittier ranch in the Oasis district to grow guayule. This, according to officials of the rubber committee, will mean eventual employment of at least 2,300 persons at peak season. This statement was based on figures established at Salinas where 500 acres of guayule is being grown. During the weeding season last spring 1800 workers were employed or 3.6 persons per acre. Living quarters for 1000 workers will be needed on the two ranches.

Whitney Hiker Injured . . .

INDEPENDENCE—Edgar Stribling, 69, of Long Beach lay in a hospital here suffering from pneumonia and bruises after his third attempt to climb Mt. Whitney, highest point in the United States. Stribling was accompanied as far as the 11,200-foot level by J. Tueller Rice, also of Long Beach. Returning from the top Stribling apparently lost the trail and fell down a granite cliff. An army glider trainee searching party found him half-frozen in a brush-covered canyon.

Army Hikers Found . . .

PALM SPRINGS—Two army men stationed at Torney general hospital were found by searchers September 13 after they became lost and had spent the preceding night on a narrow ledge in Tahquitz canyon, 4,500 feet up and 12 miles from the post. As the two men, Ed Parke and Fred Coleman, mountain enthusiasts, climbed the canyon they became thirsty and changed their course to find water. They were discovered 24 hours later unharmed, but tired and extremely hungry.

Mullet From Salton Sea . . .

CALIPATRIA—First mullet in recent years from famed Mullet island in Salton sea have been shipped to San Pedro from Niland. State game officials granted a permit to seine the fish and gill nets were used. Shipment included 15 cases and in future weeks similar amounts will be sent twice weekly, it is announced.

Date Prices Climb . . .

INDIO—Opening date prices in Coachella valley increased between 60 and 80 percent over 1941 and indicate a return of \$2,500,000 this year. Wholesale trade prices were set at \$3.90 a case or 26 cents a pound for fancy; star choice and hydrated, \$3.45 a case, or 23 cents a pound and standards, \$3.30 a case or 22 cents a pound. Lack of imported dates and greater familiarity of consumers with California dates has resulted in a heavy demand, reports United Date Growers, who handle over 80 percent of the 1942 crop. This year date crops sustained only slight damage from rain.

Resort Season Starts . . .

PALM SPRINGS—Desert Inn, famous hotel here, opened its 34th season October 1, to formally launch Palm Springs' resort season. Other establishments opening include Cregar's Indian Trading Post, The Indianoya and the Acoma Indian Curio Shop operated by Mrs. Ruth Bibb. Desert Inn's calendar this year includes the dog show in December, tennis tournaments in January and men's golf tournament in February. The annual horse show and the Spring Waltz festival will be held later in the season. F. W. Watson, manager of the Indianoya, recently returned from New Mexico where he bought many Indian items. El Mirador, another famous Palm Springs hotel, recently purchased by the army, has been converted into Torney general hospital.

Guayule Headquarters . . .

SAN BERNARDINO—Headquarters for Southern California's guayule project will be here. Federal officials have rented 10 office rooms in a downtown building and will employ a staff of clerks and assistants. Supplies for the project will be obtained through San Bernardino procurement office under direction of O. C. Baaden, who said hundreds of men would be employed at two nursery projects located at Indio and Oceanside. The Indio 700-acre nursery will be completed by November 30, while construction on the other project will start in the near future. For these two experiments 120,000 pounds of seed has been obtained from the Salinas nursery.

Catfish in Trouble . . .

BLYTHE—Colorado river catfish are feeling the uncertainty of the times. Greater need for power output at Boulder dam has caused officials to shut off Lake Mead's outflow for 8-hour periods each day to install more turbines. During the remaining 16 hours, 20,000 second feet are released. Rapid fluctuations in river flow has caused erosion problems along banks, especially in the vicinity of Needles, where erosion troubles have been pronounced for several years.

. . .

Sunrise Land company of Los Angeles has acquired 4,000 acres of potential carbon dioxide production land in the All-American acres district, 12 miles north of Niland. The war program has increased the demand for this gas.

. . .

Andrew Jackson Elliott, 83, Pony Express rider between San Diego and Yuma, Arizona, in 1877, died in San Diego September 22. Elliott pioneered Imperial Valley when he began raising cattle there in 1891.

NEVADA

No Tularemia in State . . .

CARSON CITY—Although Nevada's medical experts expected an outbreak of tularemia—dread rabbit fever—the state has kept free of the disease, according to Dr. E. E. Hamer, department of health official. Throughout Nevada this year, authorities have noted a marked prevalence of jackrabbits. Also a marked decline of Rocky Mountain spotted fever has been observed with the state making available free vaccine developed at the United States laboratory at Hamilton, Montana.

Camel Bones Excavated . . .

ELKO—Camel bones estimated 200,000 or 300,000 years old were excavated from the Antelope valley fossil field 40 miles north of Battle Mountain recently by Dr. Charles H. Falkenbach, paleontologist from the American Museum of Natural History in New York City. The field first brought to the attention of L. A. Le-maire of Battle Mountain by Indians who had seen fossilized bones exposed on a cliff, comprises a considerable deposit in limestone. Dr. Falkenbach, sent to explore the field by Dr. Barnum Brown, president of the museum, described the find as the most interesting in his experience. The scientist planned trips also to fields of Montana and Idaho.

Card Spots Take Election . . .

FALLON—Nevada, only state with legalized gambling, witnessed an election race tie settled by a pack of cards. Clyde W. Gummow and A. E. Handley sought membership in the state assembly. Each polled 320 votes and when a canvass of votes by county commissioners failed to break the deadlock, the two men settled it with a deck of cards. The county commissioners dealt five to each contestant, the winner to be the man with the most spots. Gummow won with 22. Handley held 17.

Historic Site Dedicated . . .

CARSON CITY—Reminiscent of pioneer Nevada days, members of the order of E Clampus Vitus dedicated a monument marking the site of historic Ragtown eight miles west of Fallon, October 3. Guests invited by E Clampus Vitus, an organization that has existed along slopes of Sierra Nevadas since '49 days, included Walter Morgan, grandson of Dan DeQuille, Harvey Cody, cousin of Buffalo Bill, William Hickok, nephew of "Wild Bill" Hickok, and Death Valley Scotty. Nevada members of the order met California representatives in Reno from where they left to tour Steamboat Springs, Washoe City, Bower's mansion and Franktown. An initiation of new Nevada members including high state officials was held at Reno prior to the pilgrimage.

Dr. Daniel J. Hurley, Eureka, was installed president of Nevada's state medical association at a convention held in Reno.

Nevada's 1942 wool production placed at 6,089,000 pounds will show an increase of 5,893,000 pounds over 1941, although it is slightly lower than the 1931-1942 10-year average.

NEW MEXICO

Fiesta Attendance Drops . . .

SANTA FE—Attendance at the annual Santa Fe fiesta, first held since the war began, showed a decline of 15 percent from 1941 figures, chamber of commerce officials estimated. At the close of rites, the long procession of candle bearers who trudged along a bonfire-lit route to the cross of the Martyrs were told by a Franciscan monk of the part being played by New Mexico's service men and the part that those behind the lines must play in the war effort. Father Bertin, O.F.M., spoke at the scene of the Indian massacre of 17th century Spanish priests.

Council Chairman Defeated . . .

GALLUP—When his home district supported Sam Ahkeah of Shiprock as candidate for the Navajo tribal council chairmanship, Jacob C. Morgan of Farmington was defeated in nomination, shutting him out from the reservation's general election October 16-17. Other candidates are Chee Dodge, former chairman and last of Navajo war chiefs, Ft. Defiance district; Howard Gorman, council vice-chairman, Klagehoh district and Paul Jones, council interpreter, Tuba City district.

War Affects Indian Life . . .

ISLETA—Shortage of men in New Mexico Indian pueblos has not only affected community work such as farming, but has interfered with ceremonials, reports John Collier, U. S. commissioner of Indian affairs. Many men from various communities in the state are serving with armed forces and CCC work formerly carried on for the tribes has also been stopped. Cuts in the Indian service personnel has further aggravated the situation, he asserted.

Tall Smokes Rise . . .

GRANTS—Great tall smokes can be seen across the Navajo and pueblo Indian country now that the annual making of "Chicos," highly prized native roasted corn goes forward. Indians build huge pits, heat the ground thoroughly, then dump in loads of green corn. After the kernels are steamed and dehydrated, the corn is hung up by the husks and later shelled for "chicos."

Smallest Lease . . .

SANTA FE—The smallest lease ever made by the state land office—a tract of 1.21 acres in Rio Arriba county—was con-

sumated here. The land was leased for five years for 19 cents to S. T. Trujillo, who sought the land to protect a clump of trees near his Chimayo home.

The Chilili Cooperative association, non-profit farmer's organization, has been chartered by the state corporation commission.

Oliver La Farge, nationally known Santa Fe author has received appointment as special consultant to the army air transport command.

Roger Morris of the land-use planning section of the forest service stationed at Albuquerque, has been transferred to Salinas, where he will be employed on the guayule rubber project.

UTAH

Army Hospital Built . . .

BRIGHAM CITY—The Bushnell army hospital here, completed only five months after it was started as one of the largest army hospital construction jobs in the West, now awaits only the arrival of wounded men from the Pacific war theater. Buildings occupy a military reservation of 270 acres and provides space for 1500 patients. Attempts to increase it in size to handle 3000 may be successful, it is indicated, with the acquisition of additional land by the army.

Utes Hold Pow-Wow . . .

ROOSEVELT—Chief Andrew Frank, venerable tribal leader of the Uintah Utes, and spokesman for the more than 500 members of his tribe who gathered in Roosevelt late in September for their second annual Indian observation, exchanged messages of good will with his white brothers Governor Herbert B. Maw and Chief Justice David W. Moffat of the state supreme court. Governor Maw, an honorary member of the tribe, congratulated them on their support of national programs. The event opened with a parade of tribesmen, followed by a barbecue and speeches of tribal, civic and state officials.

Sub-Strata Water Plentiful . . .

MILFORD—Underground water reservoirs throughout Utah contain a large supply for future irrigation, domestic, and war defense needs, officials of the United States geological survey announced. Key wells maintained by the survey near Milford, Holladay, Salt Lake City and Willard showed the highest water level on record. Ground water levels rose somewhat in the Gila valley near Safford, Arizona, but in the Casa Grande-Elroy area, water tables fell.

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BOOKS OF YESTERDAY AND TODAY

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NEVADA NO LONGER A "NEGLECTED" STATE

It is a fortunate state that can secure as thorough a biographer as Richard G. Lillard. And if the reader thinks I am taking too much liberty with the English language when I refer to the "biography" of a state, I can only suggest that he read **DESERT CHALLENGE—An Interpretation of Nevada**, which recently came off the press.

This book is neither a history, a tourist guide nor a record of achievement. It is all of these things combined in a manner so skillful as to give life and dynamic personality to the least known state in the American union.

The book covers every phase of Nevada's story from the geological history of the desert plains and mountains, to an intimate presentation of Nevada's liberal di-

voice laws and why and how they react in human nature.

The author analyzes the spirit and personality of Nevada's communities. He dramatizes the events and forces that have made the Nevada landscape a challenge to emigrant, settler, miner and traveler. He discusses the rise and fall of the mining communities and breathes life into the ghost towns of the past. For instance, he tells about the Tonopah bartender who sold shower baths for 50 cents to customers who had to sit on a bicycle and work the pedals to pump water into the can over his head, a can with holes punched in the bottom.

The book represents a tremendous amount of research work for there is much fact and history woven into its pages, but it also is the work of a keen reporter who has spent much time in first-hand observation.

Illustrated with excellent photographs printed in offset lithography, the book is published by Alfred A. Knopf, New York. 388 pp. Map. Index. \$4.00. —R.H.

STORY OF AN OASIS IN THE NAVAJO COUNTRY

In 1901 a little group of men representing the board of home missions of the Presbyterian church rode horse-back across the Navajo reservation in northern Arizona, seeking a location for a medical mission.

Through the interest of the elder Lorenzo Hubbell, Navajo trader, a site was selected in a little valley at Ganado near the Hubbell trading post.

During the intervening years this mission has grown until today it is recognized as the outstanding project among medical missions in North America.

A history of the mission was compiled last year by Cora B. Salsbury, whose husband, Dr. C. G. Salsbury, is superintendent of the mission and director of the Sage memorial hospital. The book, **FORTY YEARS IN THE DESERT**, recently came from the publishers.

For the most part, it is written by those who have been associated with the project during the years that the barren 100-acre site has been in transformation to a beautiful oasis of rugged stone buildings, lawns and trees and gardens.

Much of the credit for the fine service the mission and hospital are rendering the Navajo Indians today is due to the work and vision of the Salsburys, and the reader will feel perhaps that Mrs. Salsbury has been too modest in her reference to the part played by herself and the doctor.

STORY OF OLD FORT TEJON COMPILED IN NEW BOOK

An important contribution to California's printed history is **THE STORY OF EL TEJON**, recently completed by Helen S. Giffen and Arthur Woodward.

While old Fort Tejon is not within the generally accepted boundaries of the Great American Desert, many of the men who played leading roles in its early day history were closely identified with exploration of the desert country.

Outstanding among these was Lieut. Edward F. Beale who in 1852 was appointed superintendent of Indian affairs in California. It was Beale who selected the El Tejon site as the main reservation for central California Indians, and he remained identified with that locality for nearly 50 years.

In their research work for the book, the authors have brought to light much new information about the historic camel train which Beale brought across the continent in 1855, and which was operated from headquarters at Fort Tejon.

The book is in two parts, the first part by Helen Giffen being a chronological history of El Tejon, and the second part by Arthur Woodward telling of the part played by the old fort in the training of U. S. army troopers.

Both authors hold high rank among California historians and they have completed a fine service in bringing together from old newspaper clippings, army records, letters and hundreds of different sources the wealth of fact and detail contained in this volume.

A limited edition of 200 copies has been published by the Dawson Book store of Los Angeles. 137 pp. Reference tables. \$3.50.

ARIZONA CACTI MADE EASY TO IDENTIFY

One of the most helpful books on identifying cactus is a semi-technical, semi-popular manual, **THE CACTI OF ARIZONA**, written by Lyman Benson in consultation with J. J. Thorner, both of the botany department, University of Arizona, Tucson.

Besides having a very concise accurate text, the bulletin is unique in its exceptional illustrations. The nine plates of line drawings are designed to familiarize the layman with the various terms used in describing the species of cactus. There are seven color plates (both photographs and paintings) and many half-tone illustrations.

The 60 distribution maps show in color the location of the most common species in Arizona.

A chapter on culture and care of native cacti concludes the bulletin.

134 pages, paper. \$1.00.

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Gems and Minerals

This department of the Desert Magazine is reserved as a clearing house for gem and mineral collectors and their societies. Members of the "rock-hound" fraternity are invited to send in news of their field trips, exhibits, rare finds, or other information which will be of interest to collectors.

—ARTHUR L. EATON, Editor—

DIAMONDS SMUGGLED TO AXIS FROM VENEZUELA

It is reported that in spite of strict governmental regulations an appreciable part of the industrial diamonds produced in the Gran Sabana diamond fields of Venezuela are going to Axis nations. These diamonds are vital to Axis war effort. They are essential in drilling, wire making, the manufacture of precision tools, and many other needs.

The Gran Sabana, or great plain, in the extreme southeastern part of Venezuela, is separated from the rest of the country by almost impassable mountains and jungle, and by several weeks of travel time. On the other hand, the diamond fields are quite close to the Brazilian border, so that the diamonds can be smuggled easily across that almost unprotected border to the great Brazilian river port of Manaus, at the junction of the Amazon and the Rio Negro.

The number of miners in the district has been increased from 500 to more than 1,200 within the past year, but the number of carats of diamonds has actually decreased. This shows a decided leakage of stones somewhere. Also, United Nations buyers report that many diamond miners and salesmen have refused to sell their wares, saying that they can get much higher prices elsewhere. As the number of miners has been more than doubled, the production of stones should have been increased in proportion, but as fewer carats actually reach the legitimate market, the leakage must have reached notable proportions.

PHOENIX IS HOST FOR 1943 CONVENTION

Mineralogical Society of Arizona will be host to Rocky Mountain federation of mineral societies at the 1943 convention. The Phoenix group will work throughout the coming year on plans for the meeting.

In an effort to make this the most profitable year in their history, the Arizona club will expend on meetings the energy heretofore devoted to field trips.

Their members in the armed forces have been added to the honorary list for the duration.

Informal sessions through the summer were held at members' homes. Collections were studied and evenings concluded with refreshments.

DISCOVER ZEOLITES IN IMPERIAL COUNTY

Investigations of the contents of vugs in basic lava, and cavities in geodes, in northeastern Imperial county, California, have revealed the presence of one or more of the zeolites. Small masses of acicular or capillary crystals have been found to completely fill many of the cavities. There seems to be considerable variation in character, but much of this material has been identified as mesolite. The white to grey mesolite seems to grade into an orange to pale pink variety of natrolite, and possibly into scolecite. No large masses have been encountered to date, but, in a few places, single cavities have yielded plenty of material for tests.

WYOMING MOSS AGATE SHOWS FLUORESCENCE

Recently acquired pieces of moss agate from Wyoming have proven to be quite interesting. They are mostly small, very transparent, water worn pebbles from an old stream bed. When these were placed under a cold quartz lamp, the fluorescence was very strong, and noticeably like that of semi-opal. As they also seem to be slightly softer than normal agate, it seems more than probable that they are really an opal form, rather than a true agate.

JOAQUINITE

"Have you any large crystals of joaquinite on hand? I mean large enough to really see."

The answer to this question is always a disappointment. "Big" crystals of Joaquinite are always very small, when compared with many other crystals. They occur with natrolite, benitoite and neptunite in specimens from the benitoite mines in San Benito county, California. While the other minerals are not large, they are at least large enough to be examined easily, but Joaquinite is so small that it might readily escape notice entirely. It is a titanio-silicate of iron and calcium, which occurs as hardly visible, honey colored, orthorhombic masses on the white natrolite.

GEOLOGY OF CALIFORNIA COUNTIES PUBLISHED

Geo. L. Gary, mineral technologist and head of the mining bureau, northern division, San Francisco, has compiled a volume containing a geological survey of every county in California. The book contains two maps of each county, one in color showing principal rock formations, and one in white with strategic mineral locations designated in color. The work also includes a block diagram of salient geologic events in California, a geomorphic map of the state and an index to townships and range sections.

BACKYARD COLLECTING FOR WARTIME ROCKNUTS

Long field trips and rock hunting excursions are a thing of the past for most of us, at least for the duration. But many avid rock-hounds have a reserve pile in the basement or back yard which should prove to be a "point of interest" for months to come. Rare indeed is the collector who has not many times made trips to good fields, and brought back pounds of material, only to find himself too busy in the succeeding days to sort the "plunder." Back yard prospecting now should bring to light all those finds from past trips, specimens hurriedly brought in and long since forgotten.

OPALESCENCE MEANS CLOUDINESS, NOT FIRE

Many persons refer to the beautiful play of colors in a fine opal as opalescence. This is a decided misuse of the word. It is unfortunately true that the word opalescence refers, not to the "fire" which is the chief beauty of an opal, but to a whitish cloudiness or milkiness which detracts notably from that beauty. This cloudiness or opalescence is often observed in quartz, chalcedony, and true moonstone (adularia), but is not a quality which adds much to their value.

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BOOKS FOR THE ROCKHOUNDS

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GETTING ACQUAINTED WITH MINERALS, G. L. English. Fine introduction to mineralogy. 258 illustrations, 324 pages \$2.50

THE ART OF GEM CUTTING, complete second edition, Fred S. Young, gemmologist. Contains information on cabochon cutting, facet cutting, methods to test stones, the value of gem stones and useful lapidary notes. Index. 112 pages \$2.00

HANDBOOK FOR THE AMATEUR LAPIDARY, J. H. Howard. One of the best guides for the beginner gemcutter. 140 pages. Good illustration \$2.00

QUARTZ FAMILY MINERALS, Dake, etc. New and authoritative handbook for the mineral collector. Illustrated. 304 pages \$2.50

MINERAL IDENTIFICATION SIMPLIFIED, O. C. Smith. Complete table of all known minerals with simple methods of testing for identification. Gives specific gravity, hardness, color, streak, luster, cleavage and composition. Index. 271 pages \$3.50

DESCRIPTIVE LIST of the New Minerals 1892 to 1938, by G. L. English. For advanced collectors. 258 pages \$2.50

FIELD BOOK OF COMMON ROCKS AND MINERALS, by Frederic Brewster Loomis. Fine handbook for collectors. Beautifully illustrated. Includes 67 colored plates for identifying gem crystals. \$3.50

HANDBOOK FOR PROSPECTORS, M. W. Bernewitz. Complete guide covering mining law, methods, occurrence and identification of minerals. Illustrated. 362 pages and index \$3.00

JEWELRY, GEM CUTTING AND METALCRAFT, William T. Baxter. A handbook for the craftsman, designed for the amateur in jewelry-making, metalcraft and gem-stone cutting. Illustrates and describes methods and tools \$2.50

FLUORESCENT LIGHT AND ITS APPLICATION, H. C. Dake and Jack De Ment. New, complete book on history, theories and applications of the spectacular phenomenon of fluorescence. For both the professional and layman. Extensive bibliography. \$3.00

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AMONG THE ROCK HUNTERS

John M. Grieger of Warner and Grieger has gone into active service in the army and his father will carry on at the Pasadena display rooms and gardens while he is away.

After holding its summer meetings in the city parks, the Sequoia mineral society resumed its indoor programs at the Parlier high school October 6.

Seales Lake gem and mineral society is holding its hobby show at Trona as this issue of Desert Magazine comes off the press.

L. E. Perry, Monrovia, former member of the Imperial Valley society, has turned his gem polishing ability to work for Uncle Sam. He is now grinding lenses and prisms.

Dr. Reuben A. Stirton, curator of mammals, museum of paleontology, University of California, talked on the geology of Salvador, Central America, at the October first meeting of East Bay mineral society. He illustrated his lecture with lantern slides and specimens. East Bay reports a growing membership, and plans to enlarge the monthly bulletin.

Peter W. Burk, secretary of Orange Belt mineralogical society, reports attendance of 39 at a covered dish supper held September 20 in Perris hill park, San Bernardino. After dinner the group gathered in the home of Fay Hamilton. Dr. Warren F. Fox of Riverside spoke on Indian artifacts, showing rare and interesting specimens.

Los Angeles lapidary society dedicated a service flag in honor of its seven members in the armed forces at the September 14 meeting. One hundred and twenty-seven members and guests were present. A. G. Lorbeer, co-discoverer of the diamond mine at Oroville, California, told about his discovery and talked about diamonds in general.

Long Beach mineralogical society held its regular session in the recreation park clubhouse September 11.

Dr. Brinton, visiting professor of chemistry at U.S.C. lectured on beryllium at the August 14 meeting of Pacific mineral society in Los Angeles.

Gordon J. Ennes showed kodachrome films of Glacier national park at September 17 meeting of East Bay mineral society. He also explained and demonstrated a new process using plastics which he has developed.

The golden bear nugget, symbol of the California federation of mineralogical societies, is now housed in the Santa Barbara museum. Other specimens, forming a nucleus of a federation collection, are also on exhibit there.

In the Sweet Home district of central Oregon, large sections of petrified wood have been found which show their age rings very distinctly. Some pieces, during the process of petrification, were acted upon in such a way that the rings of growth, now found in the form of stone, separate easily from each other. The specimen can be taken completely apart, like many of the larger sand concretions in Imperial Valley, California, and then replaced exactly in its original form.

Mineralogical society of southern Nevada held its first fall meeting September 14 in Las Vegas high school. Bill Brown, president, lectured on petrified wood. Plans for cooperative use of autos for field trips were discussed. Anyone interested in earth sciences is invited to attend southern Nevada society meetings.

Mineral notes and news, California federation publication, states that imports of rough diamonds from south Africa have decreased, and imports from Brazil have increased. English interests are attempting to establish a diamond cutting industry in England since most of the diamond cutters have left the Low Countries.

West Coast mineral society visited Speer's Western Trails museum near Huntington Beach August 4. Huntington Beach chamber of commerce and other organizations have helped to enlarge the museum quarters, requesting only that the owners continue to keep it free to the public.

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HERE ARE BIG BARGAINS . . .

Big specimens, Virgin valley opal \$3 each. Stibnite inclusions in quartz \$2. Uruguayan amethyst, Brazilian crystal, 2x3 in., \$3 lb. Send for big local specimens, postpaid 25 cents. You can return specimens, if not satisfied. The Desert Rats Nest, 2667 East Colorado St., East Pasadena, Calif.

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AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, Aberdeen, Wash.

100 GOOD GRADE Prehistoric Indian Arrowheads \$3.00. Mixed shapes and material. Ages old. List free. Lear Howell, Glenwood, Arkansas.

INDIAN RELICS, Beadwork, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons. Catalog 5c. Vernon Lemley, Osborne, Kansas.

100 JEWELRY STONES removed from rings, etc., assorted \$2.00. B. Lowe, Box 311, St. Louis, Mo.

THE DESERT MAGAZINE

Santa Barbara museum of natural history recently received from Miss Caroline Hazard a gift of property known as The Boulders.

Zircons are becoming scarce due to the fall of Thailand (Siam). Bangkok, once center of the gem industry, produced zircons, sapphires and other gems.

Wm. Harriman spoke on ores at the September 17 meeting of Los Angeles mineralogical society. A nominating committee was chosen. Members I. H. Johnson, S. G. Benedict and Frank C. Davis exhibited.

Carnegie Institute of Washington notes that it may be possible to manufacture quartz crystals large enough to be used in radio activities for defense. They could be made by subjecting a mixture of silicate minerals and steam to high temperature and pressure, simulating conditions in a pegmatite dike.

COLORFUL MINERALS

CHRYSOCOLLA

Chrysocolla is one of the most variable as well as colorful minerals. It varies in color from bluish green through turquoise blue to brown, and even black. It is found in seams in rock as incrustations, and even as botryoidal masses. This striking silicate of copper in its common form is very soft, only two to four in the Mohs scale of hardness, and is the best known form to all copper miners and engineers. However, the mineralogist and gem cutter are familiar with another form, one completely silicified by chalcedony to a hardness of almost seven, when it becomes an attractive gem stone. The hardness makes it easy to distinguish from the much softer turquoise. Masses of gem chrysocolla were quite common in the early days of copper mining in America, but in recent years are becoming more and more rare and costly.

HIDDEN MINERALS

in the mineralogist's vocabulary. For instance, in No. 1 sentence you will discover the word agate. Find the hidden words then turn to the next page for the answers. Louise Eaton prepared this puzzle for the Imperial Valley Gem and Mineral society's last birthday party and it was very popular. If you find all the answers in 15 minutes you are a whizz.

- 1—The rockhound had to get out of his car and open a gate.
- 2—A frying pan is a utensil very useful on a field trip.
- 3—He tried to lead a righteous life.
- 4—The air on Pike's Peak is rarefied.
- 5—The miner almost lost his life when the ladder broke.
- 6—Next spring we hope to have a real garden.
- 7—The package contained pepper, sage, niter and aspirin.
- 8—The mattress filling was about half lint.
- 9—The twins look just alike and even talk alike.
- 10—Pike's Peak's altitude is 14,142.
- 11—The dog's lop ear lies close to its head.
- 12—They went to Oregon for the summer.
- 13—From the Indian mound he dug old jewelry.
- 14—In the heavy traffic her toe got smashed.
- 15—The accidental choice of roads disclosed an ambush.
- 16—That's a narwhal, I tell you.
- 17—He is either in Taurab or Axminster.
- 18—For breakfast they ate toast, ham, berries and coffee.
- 19—When I had to spell the river Dneiper, I dotted both i and e.
- 20—That is either talc or aluminum.

Cogitations . . .

Of a Rockhound
By LOUISE EATON

• Maybe the reason why the desert impresses folks as bein' so breath-takin' bewtfull is that the desert isn't too profligate with its charms. Like a bokay arrangement, flowers an' bushes stands alone to be admired in detail, not chucked together in such quantities that they can't be seen individually at all. Even piles uv rocks is bewtfull if viewed with a seeing eye.

• Desert cactuses is sort uv symbolic uv the spirit uv America: they survives thru drought 'r rain, heat 'r cold, easy times 'n hard, 'n always presents a stickery front to foes.

• Another pleasing thing about the desert is that it is most genrally nice an' clean. No unsightly piles uv rubbish an' other junk mars the scenery. Folks what loves the desert buries their trash. Any debre there may be, is probably due to some dire catastrophe, and in time is destroyed by the elements or covered by sand.

Perhaps after all these rubber drives, old sack drives, old metals collections an' such, homes an' cities'll be clean, too.

It has been announced that a new mineral recovery plant has been opened near Marshfield, on the southern Oregon coast, for the purpose of recovering chromium from beach sands. No statement has been received as to the amount to be recovered, nor the percentage of the metal carried by the coastal sands.

The Gem Exchange at Lake Bluff, Illinois, has just issued its new general price list for 1943. The Exchange is making a special bid for unused lapidary equipment and has a wide range of stones to offer in payment.

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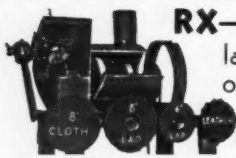
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Mineralogist and Lapidary Engineer
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AMATEUR GEM CUTTER

and polishing equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connections with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

As you read this, October will be half gone, the year will be at its best almost everywhere in the nation; the east coast will have had one or two northeasters, a southwester will be due any day on the west coast and the rainy season will arrive in sunny California any time between now and Christmas. I never saw a northeaster wash up any gems on the Atlantic coast but countless tons of gem materials are cast up by the Pacific during every storm.

There are many spots along the coast between Mexico and Canada peculiar to some particular gem; agates almost anywhere in Oregon, jaspers at many California spots and the moonstones at Redondo and Hermosa. It is estimated that there are 20,000 rockhounds in Los Angeles county alone and almost without exception they will visit their beaches for "moonstones" this winter.

People are careless about calling agates moonstones. Many magnificent agates are taken from the beaches every year but few true moonstones are found. A real moonstone is always bluish and when cut in cabochon it reflects a beam like moonlight on water. It must be cut in a cabochon to show this, just as an asteriated sapphire must be cut thus to show the star. White or milky agates never show the ray.

The Indians believed that the moonstones were prolific in their appearance when the sun and moon reached a certain juxtaposition every 21 years, and that is where we get our American colloquialism about "once in a blue moon." Several times I have made the statement that the moonstone is one of the least attractive stones found on our beaches. I really meant that many agates I have seen mislabeled moonstones are not as attractive as many other beach stones. There are many beautiful beach agates indeed but too often they are static. Once I held a handful of perfectly cut Ceylon moonstones and it was the greatest handful of loveliness I ever hope to hold. I have seen just as fine stones found on California beaches and there are just as fine ones in our desert only they have not been panned by nature's great cradle-washer, the Pacific.

If you want to be certain of the identification of your own moonstone, which is an orthoclase of 2.57 specific gravity, place it in a solution of bromoform diluted with toluol to a density of 2.5. If it floats it is really moonstone, if it sinks it is probably chalcedony which has a specific gravity of 2.62. When orthoclase is yellow it is called sunstone but that has been found only in Madagascar.

Be they moonstones or agates, they are well worth collecting and cutting. For the best assurance of a successful hunt go to Redondo or Hermosa during a pounding tide which usually comes between storms in the winter months. Rainy days are always good days for hunting, for then all the stones are wet and you do not have to wade in cold water to look for material.

HIDDEN MINERALS ANSWERS

Here are the correct answers to the rockhound's quiz on the previous page. In one or two instances, more than one answer can be given. Score yourself perfect if you get either of them.

1. Agate. 2. Silver. 3. Lead. 4. Iron. 5. Mineral. 6. Realgar. 7. Sagenite. 8. Flint. 9. Alkali. 10. Salt. 11. Pearl. 12. Ore. 13. Gold. 14. Chert. 15. Talc. 16. Halite. 17. Borax. 18. Amber. 19. Peridot. 20. Coral.

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting

equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connections with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

The last two issues of Desert contained interesting letters from G. L. McIntyre and Ernest W. Chapman regarding Myrickite. It was named for "Shady" Myrick all right but the material is never golden (ah, that it were!) and it is not opalite. Myrickite is cinnabar in chalcedony, while opalized cinnabar is sometimes called opalite in common with many other opalized materials. Both gem materials are beautiful but easily confused because they look alike. Opalized cinnabar is found at many desert localities, principally in the Chocolate mountains, while Myrickite is found only in the vicinity of Myrick Springs (Lead Pipe Springs) in the Panamint valley west of Death Valley. It has also been reported at Nevada locations east of Death Valley.

Interesting letters from Ernest W. Chapman, president for years of the California Federation of Mineralogical societies, and Death Valley Curly in Nevada advise that they, too, have brown obsidian. When I wrote about it last month I should have mentioned the highly important fact that mine is translucent. That is what caused the recent discussion.

Many interesting letters are coming to me with gratifying comments about this department, which delights me, of course. However, I would like to receive some questions or some suggestions from others. Perhaps someone can answer one for me: How can common "milk" opal be colored?

Mrs. John Roberts of San Clemente, California, asks what acid can be used to color white coral. As coral is carbonate of lime, it would effervesce if acids were applied. Stained coral has been found on the market but it always revealed itself by fading. I do not know the medium used for staining but I think that the porosity of coral would permit ready stain with dyes that were not acid.

Inquiries have come to me from as far away as New York about what equipment to buy to do lapidary work. No short answer is intended when I say "buy anything you can get." I can not recommend particular equipment except to advise that all advertisers in these pages are known to be reliable people who have sold equipment to many hundreds of satisfied users. But wool-felt buffs and carborundum wheels in lapidary grades are no longer being made. Grits need priorities, diamond saws are unprocurable and sanding cloth is increasingly hard to get. Silver for mounting gems is the latest thing to be frozen. It is a bad time to set up a new shop but an ingenious person can get together enough equipment to learn and have some fun. Anyone going into the service or abandoning the hobby should have an easy time marketing his equipment today.

LAPIDARY HELPS AND HINTS . . .

Now that you can get no acetone you might keep in mind that most nail-polish removers are almost pure acetone.

The safest way to remove stones from a dop without breaking them by pressure or cracking them with heat is to put some ice in a pan and leave the stone in the ice. When the ice melts your stone will be in the bottom of the pan and the stick will be floating on the water.

Which lap to use? A good rule of thumb is "the harder the gem, the softer the lap."

THE DESERT MAGAZINE



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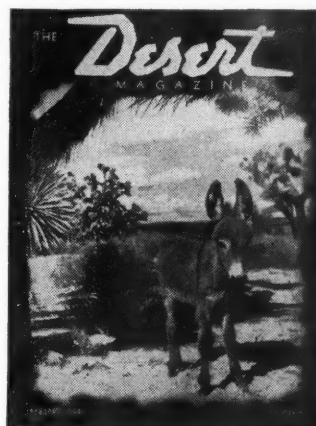
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By RANDALL HENDERSON

THIS is Desert Magazine's fifth birthday number. Birthdays are unimportant in these times, and like folks everywhere, members of the Desert staff are too busy for festivities, but it is the traditional privilege of an editor to talk shop on his anniversary.

Pioneering a magazine on the desert is not much different from any other kind of pioneering on a new frontier. The first few years are the toughest. But I am glad to report that during the past year our publishing venture has emerged from the red ink stage and is now operating on a balanced budget. This despite the war and a rather critical loss of advertising revenue.

Our subscription list has grown more rapidly since December 7 than during any previous period in our five years of publication. And if you ask me the reason, I cannot tell you for sure. It may be due to the extra money in circulation these days. Or perhaps it is because folks are spending more hours at home reading.

There is another factor, as suggested by the following paragraph from a letter which came today: "I find Desert more interesting than ever. In fact, it is my escape from a world of work and tiredness and war. In the evenings when I come in exhausted from work, too tired even to eat, it is most relaxing to get out all my back issues of Desert and leaf them through one by one. What pleasant memories come back."

But whatever the reason, I can assure you it has been a stimulating year for our staff. It is good to know that a war cannot destroy the dreams and efforts we have put into our task. And it is important to know that while Americans are putting the war effort first, there remains in their hearts a deep-seated appreciation of and love for the things of the good earth. For Desert Magazine, more than anything else, strives to interpret for its readers the life and the law of the great outdoor world of Nature.

* * *

There are not as many visitors at Desert Magazine office as in the good old days. And we understand the reason for that. But folks can still write letters—and do. We are glad to get them, because it is through these letters that we sense the popularity of our various features and departments.

I hope Marshal South soon finds the little spring he is seeking and settles down. After looking at the picture he sent us of the ramshackle trailer in which he is hauling his typewriter and goats around the country, I am sure he is due to end his journey soon. I doubt if that jalopy will stand many more miles on desert trails.

I wish I had space to mention every member of our growing staff of contributors—the writers and photographers and artists who keep our pages filled with entertaining and informative material every month. They are a fine group of people—all of them giving generously of their time to the war effort and pounding their typewriters between committee meetings and defense assignments.

War brings out either the best or the worst in people—and

it is a grand thing to live in a country where so predominant a portion of humans rises to its best.

* * *

One evening recently I drove out into the Yuha basin. To those who have never glimpsed that charming world which lies behind the grim mask of the desert, the Yuha is about as drab and forlorn a landscape as can be found on the Great American Desert. Its topography reminds me of the pictures of the north African terrain where Rommel and the British have been seeing back and forth for more than two years.

Few cars ever venture into the Yuha. It is a treacherous place for the tenderfoot driver. But it is an interesting region for all that. Marine fossils are found there in abundance, and odd-shaped sandstone concretions and fantastic cinders from an ancient volcano. There is still a seepage of moisture at the old waterhole where Juan Bautista de Anza camped overnight on his historic trek from Tubac to Monterrey in 1775-76.

But Anza and the more recent explorers who have visited this area hardly would recognize the Yuha today. Its buttes and arroyos are criss-crossed in every direction with the tread prints of jeeps and tanks. Apparently those war-time vehicles stop at nothing. Shell fragments and craters are sprinkled over the landscape.

The army and air force have borrowed the Yuha for a few months of practice maneuvers. The dunes and buttes and barrancas out there have taken some terrific punishment—and so have the men.

But there were no human casualties in the battles of the Yuha—and a few cloudbursts and sandstorms eventually will remove the scars on the desert.

I mention the Yuha because it is typical of many places on the desert where the soldiers have moved in and are getting the most rigorous kind of training. Some of my friends have expressed a fear that "the desert will never be the same again." It is surprising how many people feel a strong personal attachment for this region of the purple tinted hills and the precipitous canyons.

I want to reassure them. The training on the desert is building strong bodies and grim courage in Uncle Sam's fighting men. It is developing hard-muscled keen-eyed men who when the critical hour comes will be able to take care of themselves under any circumstances.

And as for the desert itself, dismiss the idea that these military encampments and rolling tanks will take from the desert any of the things you and I prize so highly. No army in the world can rob us of gorgeous sunsets, or remote coves where the kit foxes slip into camp at night and are grateful for the cookies we left uncovered, or the millions of acres of mountain and mesa where countless billions of tiny seeds rest snug and safe beneath the surface waiting for next season's rains.

This is a big, big desert, and Nature spent millions of years creating it. In the Great Plan of the Universe, this war among men is but a trivial incident.

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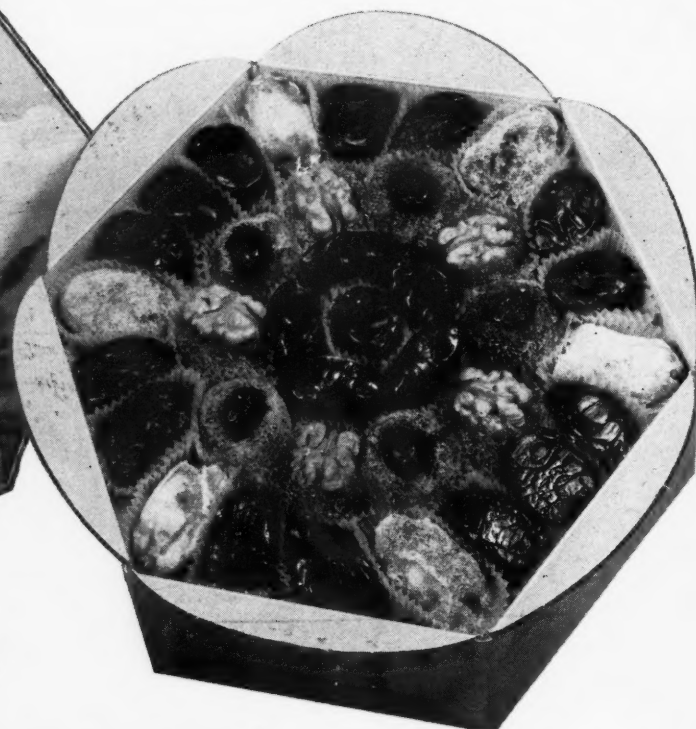
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